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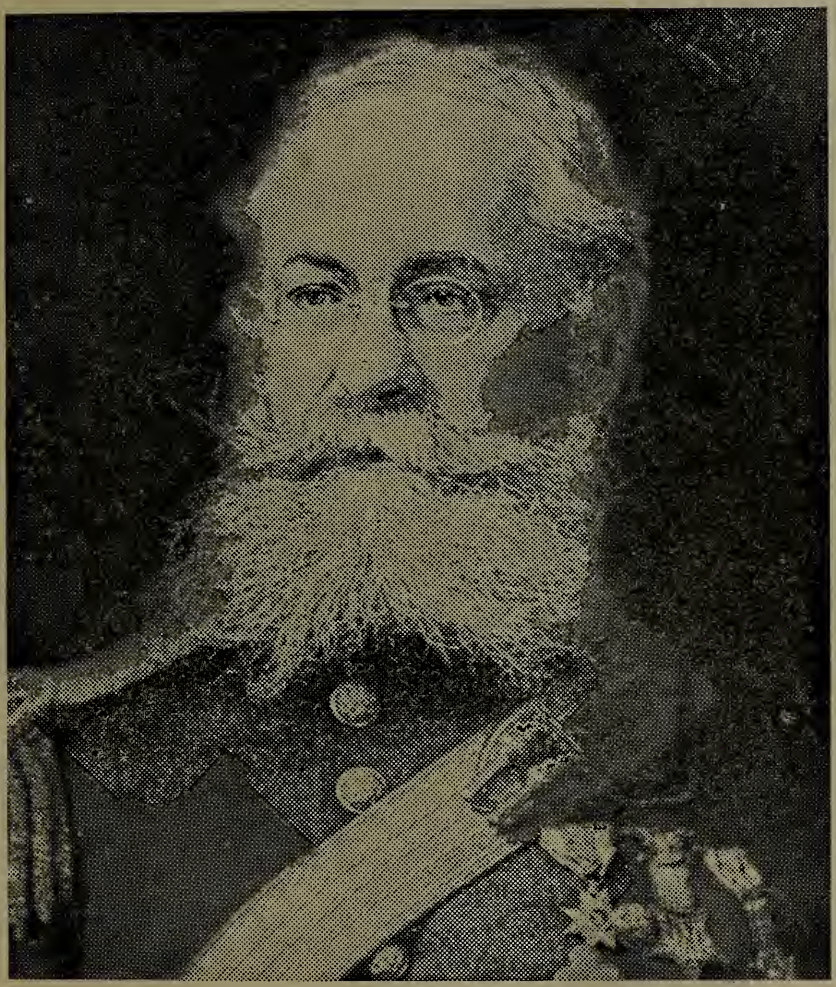

GENERAL A. W. GREELY,
Commander of the Lady Franklin Bay Arctic expedition in 1884, which reached latitude 83 degrees 24 minutes, 455 miles from the North Pole, breaking all previous records.

DR. FREDERICK A. COOK,
Discoverer of the North Pole, as he appeared on arrival home.

THE TRUE STORY OF THE COOK AND PEARY DISCOVERY OF THE *North Pole*

Including an account of all other Polar Expeditions and Stories of Life among the Eskimos

A LIBRARY OF ALL THAT IS WONDERFUL, MARVELOUS, INTERESTING AND INSTRUCTIVE ABOUT THE POLAR REGIONS

Illustrated with a large number of Superb Engravings and Photographs of Exciting Scenes in the Polar World

BY

MARSHALL EVERETT

The Great Descriptive Writer

THE EDUCATIONAL CO.
CHICAGO, ILL.

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DEDICATION

To those intrepid men who, at the risk of their lives, with pluck, courage and endurance, through toilsome and perilous journeys into the great silent and frozen zone, made possible the great discovery here chronicled,

THIS BOOK IS DEDICATED.

WHO WILL BE "NEXT" AT THE POLE.
(From the Philadelphia Inquirer.)

INTRODUCTION

By GENERAL A. W. GREELY

Among the many explorations of the unknown regions in recent centuries, none have been more fascinating and engrossing than those for discovery within the polar circles. Despite man's utmost endeavors a veil of mystery has hitherto enveloped the immediate vicinity of both geographical poles. In consequence there have been offered to the world various hypotheses. Some declare that they are located on an ice-clad ocean, others that they are on glacier-covered plateaus. Again the polar regions are declared to be the abodes of great herds of polar and hibernating animals, while their opponents assert that even the white polar bear shuns the highest latitudes. While for the most part the polar countries are believed to be uninhabited, except in the lower parts of the Arctic circle, there are those who have thought it possible that there are habitable areas, where unknown tribes and strange peoples, live, far separated from the rest of the world.

These and kindred polar topics have, for the past four centuries, engaged the attention of the learned and the adventurous, of the scientist and the man of imagination. From time to time there have appeared volumes describing not only the actual inhabitants of the Arctic circle, but also fanciful or semi-serious accounts of imaginary tribes. Indeed there have been so-called scientific books by American authors that argued the non-existence of

either a North or South Pole, and asserted that within the polar circles the surface of the earth curves gradually inwards, and that on this interior surface dwell nations as on the outer surface.

For these and other reasons the production from time to time of summaries of polar voyages and explorations are most valuable, as tending to keep alive in the rising generation that interest in the mysterious and wonderful in nature, as well as in adventurous action, which the Polar World peculiarly presents.

The most distinctive feature of polar exploration is not generally recognized, that is its entire disinterestedness. From its earlier phases of voyages to foster commercial intercourse, to stimulate and make more profitable trade relations, by bringing China and the Orient in quick communication with the marts of Europe, polar explorations have passed to higher planes and are now confined to scientific and geographical researches, offering no immediate benefits and free from lure of gain or other aspects of materialism. While with increasing rarity polar work is attended by disastrous losses of life, it has that stimulus to adventurous action, to heroic endurance, and to a spirit of noble endeavor that makes it attractive to hearts and minds which yearn for something beyond the commonplace to stir their pulses.

Nor have polar discoveries been devoid of practical benefits to the world. Bering's voyage led to the discovery of Alaska, which now produces annually more than thirty millions of weath for the United States. Hudson's early Spitzbergen voyages opened up whale fisheries through which the world has profited to the amount of

about seven hundred millions of dollars. Barren of attractions as has been Spitzbergen to the tourist visitor, it is now of such commercial importance that its ownership is to be the subject of international conference.

Polar work has had its tragedies and calamities as well as its triumphs and successes. Scores of books have been written on voyages relating to the Northwest Passage, in attempting which Sir John Franklin and one hundred and twenty-eight other souls perished. Their ships were last seen moored to an iceberg in Baffin Bay, and thereafter there have been found no records later than those reciting the abandonment of their vessels, beset in ice northwest of King William Land, and their retreat southwards towards Great Fish river. This unparalled polar mystery engaged the attention of the world for nearly fifteen years, until the harrowing story of its fate found at least a partial solution through the great arctic traveler McClintock.

A similar disaster in the middle of the sixteenth century befell the first extended maritime venture of England to distant seas, in the attempted discovery of the Northeast Passage. Chancellor's two ships, with an equippage of sixty-two souls, wintered on the barren shores of Russian Lapland, where the entire party perished on the dread arctic disease—scurvy. In striking contrast with Chancellor's experiences, illustrating the vast improvements in equipment and transportation, Nordenskiold made the Northeast Passage without casualty or danger.

Most fortunately England was not discouraged by this disaster, through which was opened up a lucrative Musco-

vite trade, but entered on a career of explorations and enterprises which incidentally led to polar expeditions on a scale never attempted by any other nation.

What stories of real life can be more thrilling to American minds than those set forth in polar annals? There are the adventures and wintering of Barents on Nova Zembla, the besetment of Weyprecht and the journey of Payer on the shores of Franz Josef Land, the three winterings of Parry in the North American archipelago, the sledge journeys of Wrangell across the Siberian Ocean, the five years of Sir John Ross in Boothia Felix and the discovery of the North Magnetic Pole, the vicissitudes of Kane and the boat journey of Hayes in the Smith Sound region, Scott among the penguins and on the ice-barrier of volcanic Antarctica, the great drift of De Long and the disaster of the Lena delta, McClure's discovery of one Northwest Passage and the navigation of another by Amundsen, the successes and sufferings of the men of the Lady Franklin Bay expedition, the death of Hall and the miraculous drift of the Polaris crew, and many other notable voyages culminating in the great northings of Markham, Lockwood, Nansen, Cagni and the attainment of the North Pole by Cook and by Peary.

All these, and other varied experiences, bordering on the marvelous and exceeding many flights of fancy, appeal to the imagination, stimulate emulation, and cultivate an ardent appreciation of manly and heroic qualities exhibited in action.

While the wonderful journey of Shackleton to the vicinity of the South Pole has naturally excited wide-spread interest, most intense in Great Britain, the astonishing

arctic episodes of 1909 have engrossed the attention of the United States, where feeling and interest have been aroused to an extent unequaled by any other news of the period.

That two Americans should have reached the North Pole independently. would be most gratifying to the national pride at any time, but that such journeys should be made over separate routes and in successive years borders on the marvelous. Especial interest attaches, therefore, to their methods, routes and experiences.

Dr. F. A. Cook established in 1907 his headquarters most primitively with the Etah Eskimo some two hundred and fifty miles from the Arctic sea. He took the field in native fashion, with Eskimo assistants, and selecting a novel route traveled through regions well-known to abound in game. Attaining the North Pole with two Eskimos, April 21, 1908, he was subjected in his return to the vicissitudes and extreme dangers of a drifting polar-pack, and spent an awful winter in Jones' Sound region, whence his return in 1909 was hazardous and difficult.

Commander Peary approached the task by again establishing his ship's quarters in 1908 on the very shores of the Arctic Ocean, across whose drifting ice-pack he successfully made his journey, reaching the pole April 9, 1909. Thus he accomplished by energy and resourcefulness the great task to which he has applied himself for some twenty-three years.

A. W. Greely

Late Commander Lady Franklin Bay Expedition.

COMPETITION AT THE POLE.
(From the Philadelphia Inquirer.)

EDITOR'S PREFACE

Two men have at last set foot at the apex of the world. Dr. Frederick A. Cook and Commander Robert E. Peary, U. S. N., announced on September 1st and September 5th, 1909, respectively, that they reached the North Pole on April 21st, 1908, and April 6th, 1909, respectively.

For centuries the bravest explorers and navigators of the greatest European countries have made attempts to capture this prize. It remained, however, for two American explorers to make the discovery. Dr. Cook and Commander Peary were at one time fellow explorers belonging to the same expedition. Afterwards they became the keenest of rivals. In commercial parlance it is said that "competition is the life of trade." It may now well be said that competition is the life of exploration.

Dr. Cook's announcement thrilled the civilized world as no piece of news has in modern times. Commander Peary's announcement, almost a week later, in which he questioned Dr. Cook's claims, made the startling news extremely sensational. The controversy that arose between the rival explorers filled the columns of every newspaper, weekly print and monthly magazine in every language and country throughout the world. There seems to have been a race, without parallel in the history of the world, between the two explorers, to satisfy the goal of their ambition. After each had reached the Pole there was another race through unexplored and uninhabited regions for weeks and months to reach the civilized world with the news of the discovery. The chapters of this book will relate how Dr. Cook spent the long sunless months of privation and intense suffering travelling over thousands of miles of ice. These pages will relate the same as regards the expedition of Commander Peary.

The critics of Europe and America were quick to point out that Dr. Cook took no white man from his expedition with him to the Pole, but

was accompanied only by two Eskimo-Indians. It seemed to be assumed that Commander Peary was accompanied by white men. His fuller reports, after three or four days, however, furnished the information to the world that he also discovered the Pole entirely alone, except one Eskimo-Indian as his companion. It is not the purpose of this book to analyze or theorize concerning the claims of the two rival explorers. The pages of the work will treat with the impressions and decisions of scientific experts based upon the data supplied by the two explorers. The interesting and valuable fact is that the Pole has been discovered. There is glory enough in it for both the daring explorers.

The writer became acquainted with Commander Peary at Washington, D. C. He has given his entire life to adventure and exploration. His determination and heart's desire were such that undoubtedly during the many years of effort accompanied by the most extreme hardships and privations, Commander Peary naturally had come to think that it was for him to discover the Pole and no one else. As human nature is constituted, we perhaps, should make allowances if Commander Peary has subjected himself, because of his criticisms of Dr. Cook, to being charged with being unethical and unprofessional.

While Dr. Cook is an experienced and daring explorer, his service as one has covered a less number of years than Commander Peary has taken from his life for this purpose. Shortly after Dr. Cook's Antarctic Expedition, the writer had the honor of meeting him in Europe. We spent seven days together as ship mates crossing the Atlantic. Since that time it has been my pleasure to meet him on different occasions. Dr. Cook is a much less impulsive man than Commander Peary. When we consider this difference in temperament, we should have patience with the impatient and impulsive man if he has fallen a victim to the too common human frailties, and think only of the daring feat he has accomplished. Aside from the discovery of the North Pole both men have for years furnished most valuable geographical and scientific information for the benefit of the entire world. The discovery of the North Pole was simply the crowning feat of a series of discoveries and explorations covering several years.

Scores and perhaps hundreds of these expeditions have resulted in failure. Hundreds of lives have been lost. The fate of many of these

daring explorers is among the things unknown. Besides, millions in money have been expended.

Many people will question the practical discovery of the North Pole now that it is made. Many are already claiming that the discovery is of sentimental satisfaction only. Let us not be too hasty in drawing such a conclusion.

A third of a century ago, we had many theorists who felt certain that the vast central western country between the Missouri River and the Rocky Mountains was the "Great American Desert" and entirely worthless.

Stanford, Huntington and Crocker, who conceived and made possible the construction of the first transcontinental railway to the Pacific Coast were ridiculed and denounced as being dreamers. Likewise, when the United States purchased Alaska the criticisms were intense. Those who favored making Alaska a part of this country by purchase from Russia were denounced as delusionists.

Many who, in a half-hearted manner, favored the purchase did so to "get Russia out of America," and saw only a sentimental reason for "throwing away" $7,200,000, by giving it to Russia for a region of "no practical use in the world."

Who knows but that, as time goes on, it will be demonstrated that the discovery of the extreme Arctic Regions may prove to be of more than sentimental and geographical value to all the world and particularly to the United States, in that it will belong to the United States by right of discovery.

But, let us consider the fact of the discovery a little further. Imagine the discoverer of the North Pole standing with one foot on the extreme end of the 180th meridian and the other on the meridian of zero, or Greenwich. The other end of each of these two imaginary lines comes together after entirely encircling the globe nearly 13,000 miles in either direction, at the South Pole. Here is the spot where no human foot has ever trod, but the thought of the scientific world has centered here for centuries. Is it possible to imagine the thrilling emotions that filled the breast of the daring explorer who at last stood at this spot? It is as impossible to appreciate such feelings as it is to realize the extreme sufferings and privations endured to reach the coveted spot. Then, the

intrepid discoverer must encounter the same hardships, facing death every minute and every hour on the return to civilization and home.

We will assume that Dr. Cook or Commander Peary—the reader may take his choice, in his imagination, as to which one of these daring explorers is actually standing at the top of the world—stood astride the North Pole with his right foot on the meridian of Greenwich and his left on the 180th meridian. It is plain that so far as the terrestrial world is concerned, he is facing southward in any direction he may look. There is no east, west or north. Every direction is south. If he is looking straight ahead his eyes are scanning along the 90th meridian east of Greenwich and his back is toward the 90th meridian west of Greenwich. Thus, we have the world quartered, so to speak.

If he turns his eyes one-quarter of the way around to the right and looks in the direction straight away from his right side, he is looking directly down the meridian of Greenwich, or zero, which passes through the Arctic Ocean almost midway between Spitzbergen and Greenland. Farther south it extends through the North Sea until it crosses the extreme southeastern side of England at Greenwich. Onward this imaginary line shaves off the extreme western side of France and the northeasternmost corner of Spain, crosses the Mediterranean through Algeria, almost touching the southeastern corner of Morocco, and across the Sahara desert in Africa. In the Gulf of Guinea in the South Atlantic Ocean it crosses the equator. Here we are just one-half of the distance from the North Pole to the South Pole. In its onward reach to the South Pole, the meridian of Greenwich passes almost entirely over water, so far as known.

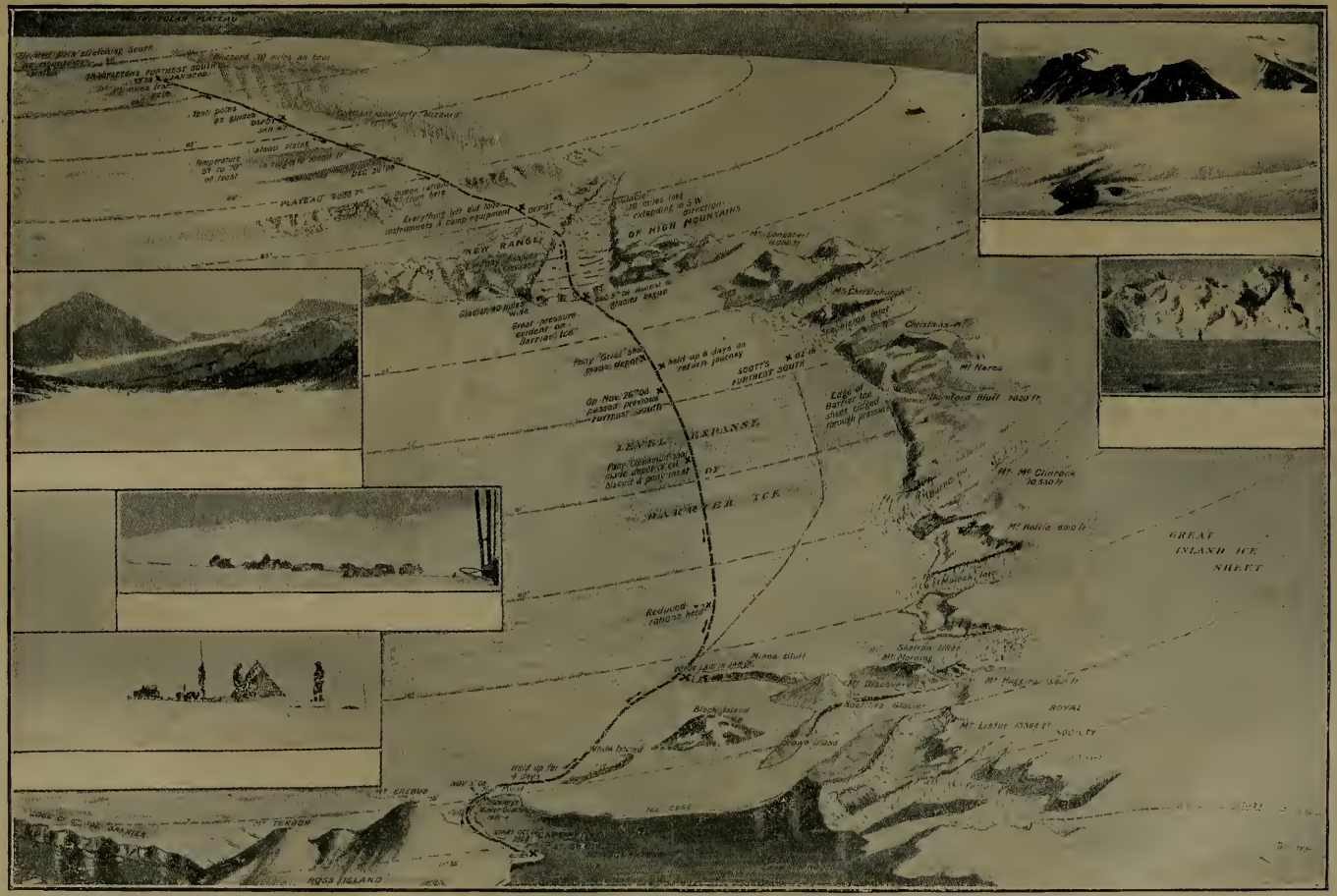
Now, if the explorer will turn his face from right to left as he stands at the North Pole, his eyes will be looking in the direction of the 180th meridian. This extends across the Arctic Ocean almost touching the eastern end of New Columbia, or Wrangel Island, and then cuts off the extreme end of Siberia, which projects into the Bering Strait. Now, it passes through the Gulf of Anadir through the Bering Sea, across a cluster of the Aleutian Islands, through the Pacific Ocean, where it crosses the equator and extends onward across the Tropic of Capricorn and beyond grazes the eastermost projection of New Zealand. This makes New Zealand the eastermost civilized country of the world. It

will be seen that practically the only land the 180th meridian crosses is that fragment of farthest and desolate Siberia, mentioned above. In its onward course to the South Pole the 180th meridian, like the meridian of Greenwich, on the exact opposite side of the world, passes entirely over water, so far as known.

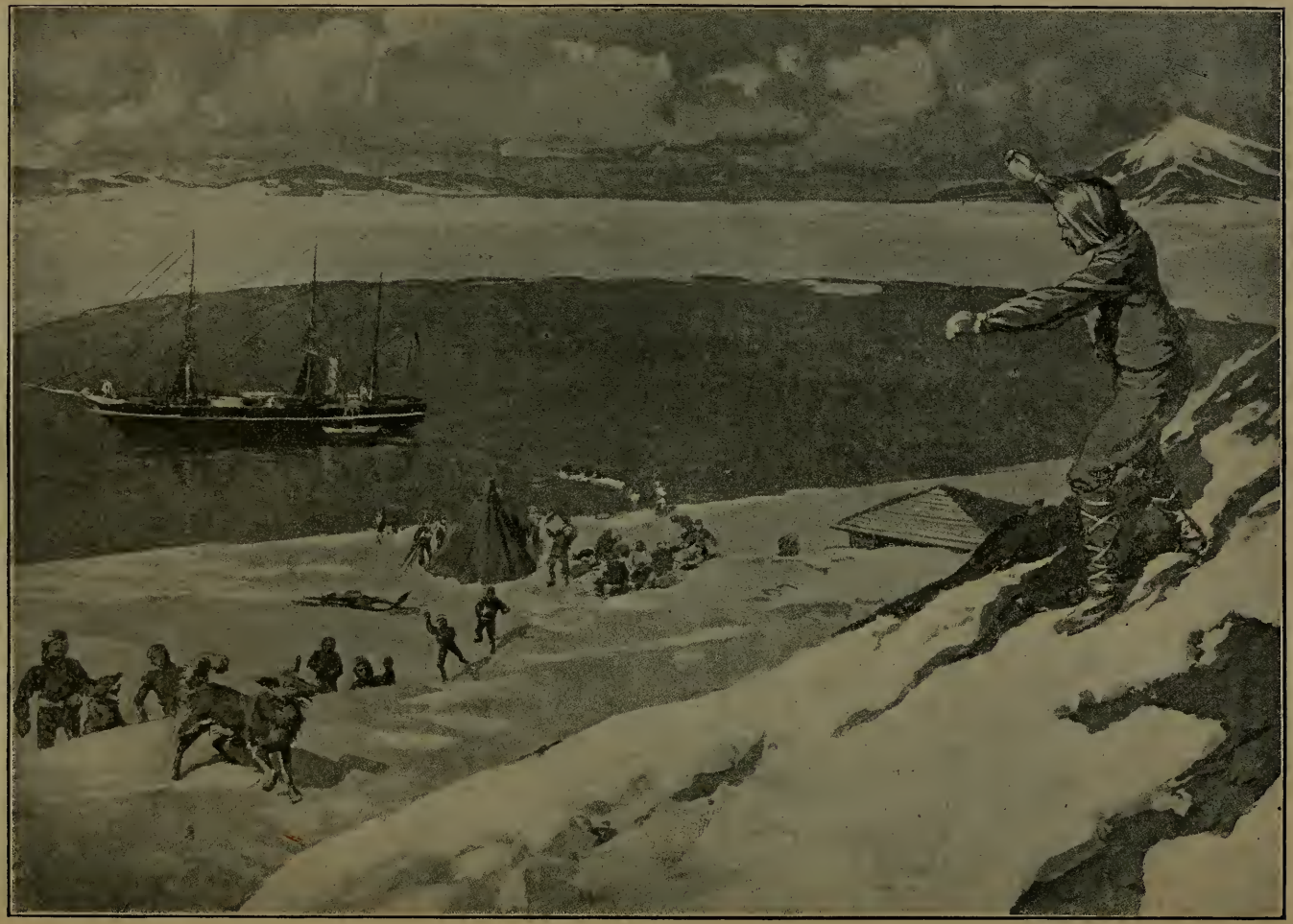
In a chapter of this book reference is made to the beautiful little story of Edgar Allan Poe about the young sea captain who could not get the consent of the father of his sweetheart to marry her. The father meant to tell the young captain that it would be impossible for him to consent to let him have his daughter. To make it as strong as possible the father said to the young navigator, "whenever you can prove to me that there are fifty-four Sundays in one year, you may have my daughter." Being an experienced navigator and knowing that a Sunday or any day may be gained by crossing the 180th meridian in an easterly direction, the young skipper accepted the father's offer as a bargain. After a two years' cruise the young captain came back and demonstrated, after long and patient explanation to the girl's father that he had actually found fifty-four Sundays by turning his ship around and crossing the 180th meridian twice in an easterly direction. Much to his joy the young navigator found his lover's father a man of his word. In crossing the 180th meridian in a westerly direction a day may be lost. It is here, as time is measured, that every day begins and ends, being reckoned from the meridian of Greenwich.

It matters not whether we can make up our minds as to the practical usefulness of the North Pole and the vast unexplored regions surrounding it. The fact remains that it is, without doubt, the most important geographical discovery since Columbus discovered America. This discovery will undoubtedly give a great stimulus to explorers all over the world to make efforts to reach the South Pole. When this feat is accomplished it would seem that there will be no more "worlds to conquer."

A MONKEY AND A PARROT TIME.
(From the Philadelphia Inquirer.)



SHACKLETON'S JOURNEY TO WITHIN 111 MILES OF THE SOUTH POLE.



THE RETURN TO WINTER CAMP AFTER BEING LOST FOR FOUR DAYS.

FOREWORD.

The North Pole has been discovered.

It has been left for the year 1909 to bring forth what men of ages past have striven for in vain. Two American explorers, men whom neither nature's terrors nor self-interest could sway, have gone into the far north and have returned with news that their feet have rested upon the apex of the globe. Both have their supporters. The friends of the one will not believe in the achievements of the other. Probably as long as human beings can think for themselves, or at least until more fortunate men can thoroughly traverse the ice-covered seas of the pole, there will be question of the deeds of either Cook or Peary.

Such glory as has fallen to their lot is not easy to apportion.

Dr. Cook ventured into the mysterious north and returned by way of Greenland to Denmark, where he arrived worn, weary and haggard to make the first claim of having discovered the pole. Commander Peary, of the United States navy, returned by a western path, skirted Canada, and from Labrador sent his message of victory—not a week behind his predecessor. Both were given a welcome befitting conquerors. Both were called upon for proofs, and gave them. They were rivals such as never contended before for the honor of their fellows. They brought news that stirred the imaginations of even the dullest. The fact of their almost simultaneous announcement of triumph forms one of the most startling coincidences in all history.

The purpose of this volume is not to discuss the rival claims of these modern vikings; not to present anew the arguments strung out ad nauseam by warring bands of scientists; not to detract in the least from the credit due to either man. This book aims simply to present, from the records available, and from the statements made by the explorers themselves, a complete and impartial account of what they saw and did.

Whatever Peary may say of Cook, or Cook of Peary, the fact remains that the pole was discovered. It is preposterous to think that two men could per-

petrate such a gigantic falsehood upon their fellow-creatures. It is, indeed, preposterous to suggest that either of these brave souls would utter the greatest lie in history,—for such would this lie be. It is more in accord with the spirit of fair-minded Americanism to assume that both are telling the truth; that both found their way to the most lonely spot on the globe; that both are entitled to a share of the honor.

Peary and Cook!

Let the two names be linked together in the crowning marvel of a marvelous age.

Let there be found room under the Stars and Stripes for both these stalwarts; these noble Americans who took the flag of their country to the pole.

In this book will be found a complete and authentic account of the journeys of Commander Robert E. Peary and Dr. Frederick A. Cook; of what they discovered; of how they were received on their return to civilization; and of what they had done before their careers reached the present glorious fruition. For the better understanding of their achievements there will be presented also an account of the work of previous Arctic explorers,—the men who blazed the way, and whose bones, in many cases, lie there in the far north, swallowed up by the forces against which they strove.

THE AUTHOR.

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CHAPTER I.

THE NORTH POLE FOUND.

"I have found the North Pole."

From the deck of a Danish steamer as it touched at the Shetland Isles, Dr. Frederick A. Cook sent this message over the world September 1, 1909. It meant that an American explorer had reached at once the summit of his ambition and the summit of the world. It meant that a dozen other explorers saw their hopes blasted. It meant that a goal striven for since the sixteenth century, a lure that had caused human bones and the wreckage of ships to be strewn amid the ice of the desolate arctic, had been gained.

More than a year had passed since Dr. Cook sailed from a point of communication with the civilized world. Not a word had come from the lone explorer who had plunged across the snows to possible doom. Then, on that first day of September, the captain of the steamer Hans Egede, a Danish craft, sent to the colonial office of his government this world-startling telegram:

"We have on board the American traveler, Dr. Cook, who reached the North Pole April 21, 1908. Dr. Cook arrived at Upernivik (the northernmost Danish settlement in Greenland, on an island off the west coast) in May of 1909 from Cape York (in the northwest part of Greenland, on Baffin Bay).

"The Eskimos of Cape York confirm Dr. Cook's story of his journey."

That was all. Not a word to tell whether the explorer was well and sane, or whether, after his terrible journey northward and southward, he might not lie in his bunk, a raving maniac. But Dr. Cook's friends were speedily to be reassured. There was another message, this time to a friend in New York. It said:

"Successful. Well. Address Copenhagen.

(Signed) FRED."

The friend, Mrs. Robert Pier Davidson, of 693 Bushwick avenue, Brooklyn, was the intimate associate of Mrs. Cook, wife of the explorer. From

Brooklyn the joyous news, not only of success, but of health, was forwarded with all speed to the explorer's wife, who was passing part of the summer in Maine. The two words, "successful" and "well," were all she needed to know. The one told her that her husband had achieved what no man had achieved before. The other contained the (for her) even more heartening news that he had returned from the awful solitudes of the pole with health and strength.

Before the day was over still another message reached the world. It was clearer and more conclusive than the others. It was addressed to the director of the observatory at Brussels, Belgium, M. Lecointe, an old friend and fellow-worker of Cook. It said:

"I reached the North Pole on April 21, 1908. I discovered land far north. I return to Copenhagen by steamer."

And so it had been done. A man had stood on "the top of the world" and had gazed upon expanses never before glimpsed by human eyes; perhaps, indeed, never seen by the eye of any living creature. More than kings and princes of the mythical world, more than navigators of the new world in the fifteenth century, has this tall, well built man who used to live at 670 Bushwick avenue, Brooklyn, N. Y., found a new thing under the sun.

On that hour in April, 1908, that this man stopped his dog sledges, pulled out his sextant, and with mittened fingers fixed the instrument on the north star, shining out of the arctic night, he found himself—if the world will credit his statement—at latitude 90 and longitude anything he pleased.

He found that by shifting the position of his feet on the tip of the world he could throw himself across a span of longitudinal lines that swiftest train and steamer could not cover in forty days.

Perhaps in a whimsical moment this Brooklyn explorer balanced himself on the toe of one bearskin boot and whirled from right to left. Presto! he had added a day to his life.

It took Dr. Cook months to work his way back from the region into which he had penetrated. It took only a few hours for his deed to become known in every city, every village, every spot on earth where civilized men hold communication with one another. And the world gasped and smiled, and cried out the questions:

Who is Cook? How did he do it? What good is it? What does it mean to the world of the future?

Thousands of men seized thousands of maps and searched for the spot whose attainment had caused all this uproar. They found ragged lines showing where continents had been traced by voyagers of former years; and then they found a blank—a blank indicating the spaces never penetrated. They found a circle, the imaginary line tracing the realm of the arctic, and other circles showing 80 degrees north latitude, and 85 degrees north latitude, and in the center of it all, that blank. Some now drew a dotted line from Greenland to the middle of this vacant spot, and they began to understand what Dr. Cook had done.

What he did was to enter one of the few fastnesses of the earth, to explore one of the two spots thus far left unexplored,—one the North Pole, and the other the South Pole. He had been to the axis of the globe, the center around which it whirls. He had been to a place where, says Sir Robert Ball, the noted English astronomer, "the sun rises and sets only once a year—six months daylight, six months night, mitigated only by a little twilight at the beginning and end of a period of awful gloom, broken by occasional moonlight or aurora.

"The pole is truly a unique spot on the globe. Cook, standing there, faced due south, whichever way he looked. He was more than twenty miles nearer the center of the earth than if he stood at the equator. His weight was greater than anywhere else on the surface of the globe. A plumbline in his hand pointed vertically upward to the pole of the heavens, around which all stars revolve.

"Half of the stars he could never see; the other half never went below his horizon and would have been visible throughout the six months of night. The famous constellation Orion ever circled around and around this horizon. The pole star stood directly over his head."

In summing up the meaning of what Dr. Cook did, Herbert L. Bridgman, secretary of the Peary Arctic club of New York, used these telling words:

"The question naturally arises, What is the value of this achievement? Viewing the matter from viewpoints of the general public—as a great triumph of man over nature, as the achievement of a daring physical feat of the first magnitude—the news from Copenhagen makes Dr. Cook deservedly one of the great figures of the decade. He is the Columbus of the Arctic. What he has done no one can ever excel. There is no point further north—nothing left for any rival explorer to accomplish which can outdo his performance."

Scientists the world over joined in the bedlam of discussion over the significance of the discovery. Dr. George Titmann, superintendent of the coast and goedetic survey at Washington, declared that the chief immediate

From the Washington Star.

value would be the actual geographical information obtained by Dr. Cook of the route over which he passed.

Dr. Titmann also believed that the discovery will have great effect in stimulating elaborately equipped scientific expeditions for the collection of more technical data that will be of great value.

As to the lay of the land, the set of the currents, the rise and fall of tides, the location of other islands or the expanse of water and its depth, Dr. Titmann concluded Dr. Cook must have secured valuable information. That it will be much easier in future to reach the pole there can be no doubt, in Dr. Titmann's opinion.

Dr. Titmann suggested that if Dr. Cook had the proper equipment he might have taken pendulum experiments that would develop interesting additional data as to the figure of the earth.

In general Dr. Titmann, while greeting the alleged discovery with delight as opening up a valuable field for scientific investigation, concluded that the discoveries made by Dr. Cook, or hereafter to be made by scientists following his lead, would be for the most part of further details about subjects already known in part.

Dr. Titmann doubted, however, that any of these discoveries could have any great immediate practical importance. Navigation as a science will gain nothing, nor will meteorology. But in the verifying of what heretofore necessarily has remained in the status of theories Dr. Titmann said much will be gained. In the matter of pendulum experiments regarding the mass and figure of the earth he said all civilized nations are now making experiments, and experiments taken at the pole would add to their fund of information.

Prof. William H. Brewer, of Yale University, said:

"There are really no scientific theories as to what is immediately around the pole. There are some theorists who think there is an open sea and some who believe that a fertile spot is there. Scientific men are inclined to think that there may be little difference in immediate conditions close to the pole from those in the Arctic regions miles from there.

"The discovery of the North Pole ranks as a great achievement. Before men began to climb mountains we didn't know much about mountains, but men have climbed mountains till there are few left unclimbed. Now when a man climbs a mountain for the first time it's a great achievement, but we have learned so much about mountains that his act may not aid much to the scientific knowledge about mountains. Just so with the scientific value of the discovery of the North Pole.

"All reports from the Arctic seas indicate that last year was unusually severe, making it possible for Dr. Cook to proceed rapidly over the ice. Climbing over the ice and icebergs toward the North Pole is like climbing through a city without streets. You have to climb over the houses. The

From the Washington Star.

THE MODERN COLUMBUS DISCOVERING THE NORTH POLE.

fact that the year was so cold kept the ice floes together more compactly and added an element of rare good luck to his splendid courage."

The Matin, a great newspaper of Paris, had this to say:

"The dawn of a new century has seen marvelous discoveries, not the least of which is that brought to us over the telegraph that the North Pole had been discovered and that an American explorer attained that point of the globe which is wrapped in mysterious legend and always has been deemed inaccessible.

"For the last five centuries the efforts of explorers have tended toward the pole; for five centuries explorers have rushed to the Arctic extremity of the world. All peoples had tried to pierce the mystery of the polar ice and reach the exact spot where is the pole, and it is America which emerges triumphant in this heroic journey.

"One thing is certain, a great feat has been accomplished and a marvelous victory has been won by the courage and tenacity of man over the savage brutality and relentless resistance of matter, and none will seek to stint to young America the enthusiasm which the glorious conquest merits; none will refuse her the tribute of admiration, well earned by one of her sons for the triumph which he has achieved for civilization."

Discussion also arose over the value to the United States of the newly discovered lands.

State department officials were of the opinion that it was of little consequence to the United States what lands Dr. Cook has discovered on his way to the North Pole so far as actual territorial possession is concerned.

It was recalled by the department officials that ever since 1828 American explorers in both the Arctic and Antartic have discovered vast areas of land to which no claims ever were made. Admiral Wilkes found in the Antartic a territory of more than 100,000 square miles in area, and Dr. Kane made large discoveries in the Arctic, but no effort ever has been made by the United States to assert its right to them. Gen. Greely some years ago located lands which never before were known to exist.

Many of the world's greatest navigators have from time to time made discoveries to which no claim ever was made. The principal reason for this, however, is said to be that these lands in every instance were almost inaccessible and absolutely of no value.

The islands of Spitzbergen, which were discovered many years ago, still are without a recognized owner. On the maps these islands are designated

as belonging to Russia, but her claim, if ever asserted, has never been recognized.

These islands are not only accessible, but have developed some thriving industries, and only within the last few years has any effort been made to exercise over them any jurisdiction or authority.

Recently, however, a conference was suggested of representatives of countries having interests in them to provide some sort of an administration for their government. The United States probably will be represented by reason of the fact that the only important coal mines in the territory are operated by Americans.

As to the particular territory which Dr. Cook discovered the statement was made that it was quite probable that these lands would be found to be an extension of the mainland of Greenland, and, if so, they belong to Denmark. At any rate, it was held to be extremely improbable that the United States would attempt to assert sovereignty over them.

But this was something for the future. It was enough, for the time, to know that Cook was an American. The United States could claim sovereignty over him.

COMMANDER PEARY, WHO HAS "NAILED THE STARS AND STRIPES TO THE POLE."
The map shows positions reached by other Arctic Explorers.

DR. COOK'S EXPERIENCE ON HIS WAY TO THE NORTH POLE. HIS GREAT EFFORT GOING THERE AND HIS FIGHT FOR FOOD ON THE WAY BACK.

CHAPTER II.

HOW COOK STARTED FOR THE NORTH POLE.

Dr. Cook's dash for the pole, like most of the great actions of history, was as secretly conceived as it was heroically carried out.

Few even of the explorer's most intimate friends suspected he was about to undertake the most difficult journey within the reach of man. The discovery of the North Pole was the termination of a voyage that started ostensibly as a fishing-trip.

On July 3, 1907, Dr. Cook was the guest of John R. Bradley on board his schooner yacht, the John R. Bradley, which left Gloucester, Mass., to go on a fishing trip up the Labrador coast. Mr. Bradley is a New York man of wealth, interested in sports, and has followed Dr. Cook's polar aspirations closely.

Mr. Bradley invited Dr. Cook to go on the fishing trip, never dreaming that it would end in the Brooklyn man's making a dash for the pole. Aboard the schooner were half a dozen Newfoundlanders who were thoroughly familiar with the coast of Labrador and who were to act as guides.

The fishing party ran into treacherous weather and heavy ice packs as it proceeded along the Labrador coast. Then the gasoline engines got out of order and the vessel was involved in difficulties. The ship was at length headed for Cape York harbor, but owing to the heavy ice it was unable to land there and a landing was made in North Star Bay. There some days were spent in hunting and fishing.

While the time was being spent in this way, Dr. Cook became fired with the ambition to reach the pole. He spoke to Mr. Bradley about it, and the latter declared that if any such trip was to be made, he would not join it.

Dr. Cook was insistent. He wanted the entire party to go with him on the expedition. As Mr. Bradley would not be one of the party, Dr. Cook organized a force of Eskimos, and, with Rudolph Francke, made preparations for the expedition. Mr. Bradley left in August, 1907, on his fishing schooner,

to return to New York, leaving the determined Brooklyn man and his party to seek the pole.

Dr. Cook had an entirely different idea of how the trip to the pole ought to be attempted from that followed by Peary and other explorers. He calculated upon going through Nansen Strait and doing his traveling in the winter months. His reasons for choosing the period of extreme cold was that the ice fields would be smoother and that there would be less danger of encountering the jagged passages of ice, through which travel is extremely difficult.

When Mr. Bradley returned to New York in October, 1907, he told of Dr. Cook's scheme and the preparations for the trip.

"Dr. Cook told me before he left Gloucester that it would be a great thing if we tried to reach the pole before we returned," said Mr. Bradley.

"I did not give him any encouragement then, but thinking that he might insist upon making the attempt when we reached the farthest point north on our trip, I ordered provisions put aboard that would furnish an arctic expedition for three years.

"When the vessel sailed, therefore, we had everything necessary for a polar expedition. On our trip we went as far north at Etah, Peary's former winter quarters. Here we enjoyed a fine view from the high hills of Smith Sound. There was no great amount of ice in the sound, so Dr. Cook, the first mate and myself, took a motor boat and went through Smith Sound to 79 degrees north latitude. There the farthermost settlements of the Eskimos are, and we spent several days among them.

"Dr. Cook knows the Eskimo language and had no difficulty in conversing with them. He had been up there on Peary's first expedition and some of the Eskimos remembered him.

"When we returned to Etah we brought the greater part of the Eskimo settlement back with us. Once back at Etah conditions looked so favorable for a dash to the pole that Dr. Cook could not resist the impulse. We found we could get all the dogs we wanted and all the natives that Dr. Cook wished to have with him. The natives had already cached their winter supply of food. I helped them kill walrus, seals, white whales and narwhals to augment the supply. The Eskimo women were kept busy catching arctic hares and birds to make their winter clothing.

"Dr. Cook concluded to stay and make the dash for the pole as soon as feasible after the long, dark night should begin to break. Dr. Cook took

about fifty Eskimos, men, women and children with him to a place farther north of Etah and established winter quarters."

From another source come further details of the Bradley expedition which had so startling a result. The ship used was a Gloucester fishing schooner before Mr. Bradley bought it, fitted the 111 ton craft with a gasoline engine and rechristened it with his own name. He put the boat in charge of Capt. Moses Bartlett, who had been first officer of the Peary ship Roosevelt, and engaged a Newfoundland crew.

It carried a twenty-seven foot whale boat with a ten horsepower gasoline engine. The Bradley was fitted with everything needed on a polar expedition.

The route of the Bradley was from Gloucester to Battle Harbor, Labrador, thence across Davis Strait to the South Greenland coast. Ice first was encountered at Sisco, and it damaged the machinery. After shooting bear in Melville Bay, the party reached Cape York and North Star Bay. Later it touched at McCormick, Bowdoin and Robinson Bays, and reached Etah, Greenland, Peary's old winter quarters.

Taking the motor boat Bradley, Cook and some others went through Smith Sound to 79 north, and brought back some Eskimos to Etah. There Cook decided to stay, and with him and the natives there also remained Rudolph Francke, a member of the expedition. Cook's idea was to start about February 1, 1908, across Smith Sound and strike out in a northwesterly direction across Ellesmereland to find an open polar sea at about 83 degrees north latitude. His reason for going in this direction was to avoid the easterly drift of polar sea ice. He had with him a canvas boat in which to cross the open polar sea. He expected to reach the pole and to get back to Kennedy Channel in about three months. Three families of natives were to be left at three separate stations, but he and two Eskimos were to make the dash, together with two sleds.

On March 3, 1908, he left his base of supplies at Annatok on the northwestern coast of Greenland, and with abundant supplies disappeared in a northwesterly direction over Ellesmereland into the little known regions toward the Arctic Ocean.

Francke was left at Annatok, twenty miles north of Etah, which is the northernmost inhabited settlement on the west coast of Greenland, and on May 7, 1908, the last word from Dr. Cook came to Francke—a letter dated March 17, and therefore written just two weeks after the start northward—instructing Francke to go back to New York in case Dr. Cook did not return

to Annatok by early June. On his nonappearance at that time Francke started southward, endured terrible privations in his struggles over the ice, was picked up at Etah on August 17 by Peary's auxiliary steamer Erik, and was brought to St. John's, Newfoundland, whence the news of the possible loss of Dr. Cook was sent out by telegraph. Francke returned to his home in Hoboken.

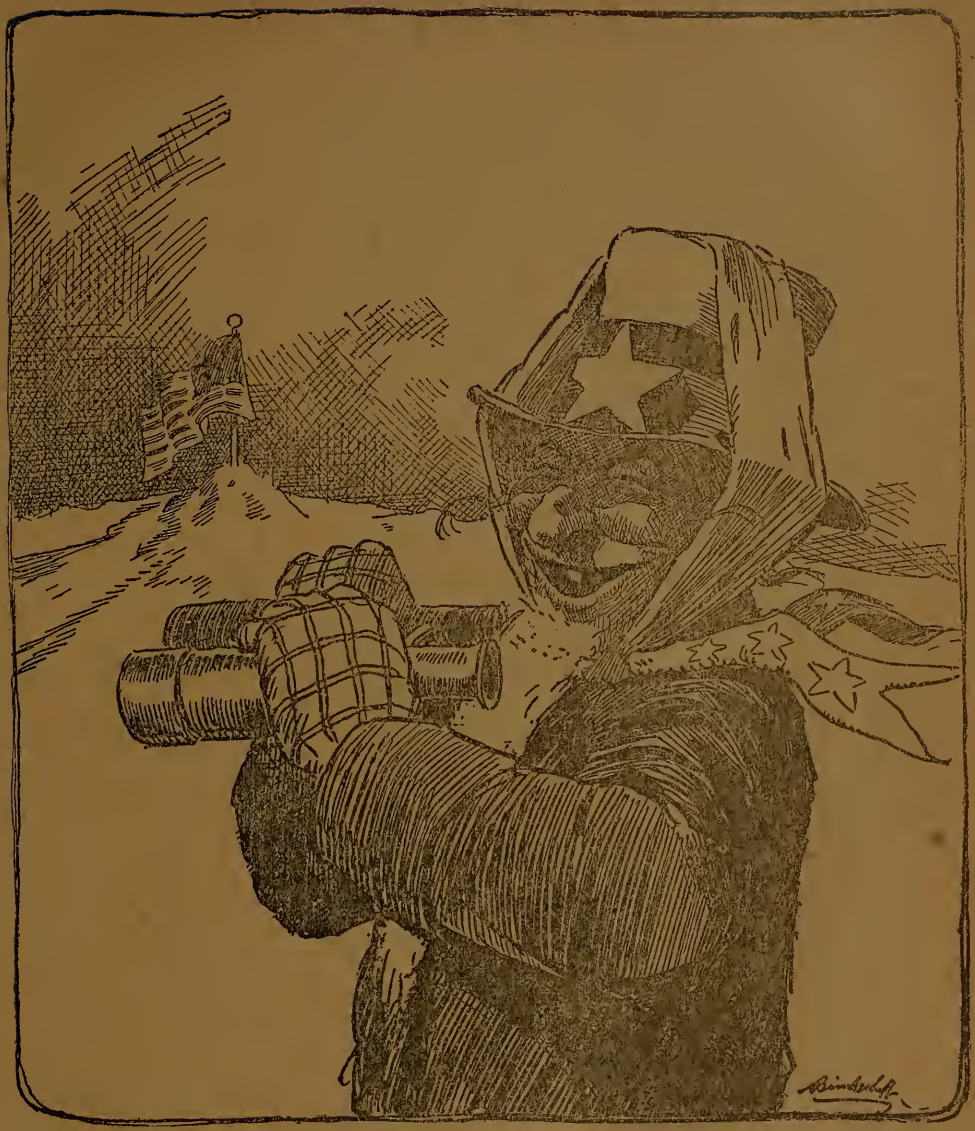
Francke's story throws vivid light on hardships endured by Dr. Cook. He started south, accompanied by two Eskimo youths with a sledge and canvas boat, and hoped to connect with the whalers at North Star Bay in Greenland, six hundred miles from where he was. On the way he met some Eskimos, to whom he turned over his dog team, as the ice was broken and loose and he had to travel by boat in the open water. Weather was most unfavorable, rain, fog, hail, and gales prevailing, and as the matches they carried became damp he and the Eskimo boys had to eat raw meat and sleep huddled together under the overturned boat at night, as they had no fire. Francke became afflicted with rheumatism and scurvy and could scarcely hobble over the floe.

After reaching North Star Bay he rested and doctored himself, and then started back for Etah, making the journey in a little over a month. Both ways the party existed on the meat of seals, which the Eskimos killed, and one polar bear which met the same fate. While he was absent from Etah the Eskimos broke into his house and stole all his supplies. On getting back he was so ill that he could walk only with two sticks, and until he joined the Erik, had to exist on walrus meat, which the Eskimos gave to their dogs, as they refused him the better provender which they possessed.

But Dr. Cook's message to Francke of March 17 stated that he had made good progress in crossing Ellesmereland and was then at Cape Hubbard, on the northwest side of Ellesmereland, sixty miles below Cape Columbia, Peary's point of departure from land on his journey toward the pole in 1906. He allowed three full months for his dash over the Polar sea and return, which is the maximum time usually taken for excursions by sledges.

Three months! Even Dr. Cook, experienced explorer that he was, hardly counted on the torturing delays, the terrible weariness, and other drawbacks of getting back to civilization once he had pushed beyond its borders.

It was a year and four months, and more, before Dr. Cook reached a point where the electric spark of the telegraph placed him in touch with home and country.



From the Cleveland Leader.

"WELL, WHOEVER PUT IT THERE; IT'S THE STARS AND STRIPES."

In the meantime Bradley, the backer, was waiting anxiously at home for news of the great dash. He had taken a long chance on Cook, as the popular phrase has it, and success or failure meant much to him.

But Bradley was accustomed to taking long chances. All his life he had been a hunter of big game; a tempter of fate. His career as a hunter probably has not been surpassed by an American. He has been called "the greatest amateur big game hunter in the world." To scour the African jungles it cost him the sum of $20,000. In his caravan were one hundred and thirty natives.

Photographs of this expedition show a caravan, each man carrying from eighty to 100 pounds on his head. The men were picked from various tribes and were under the guidance of native experts from the country of the Mad Mullah. By playing one faction against another, Bradley was able to preserve peace and order.

Of this African hunt Bradley has written as follows:

"I have been a sportsman all my life, not a hunter. A hunter is a professional who goes into the jungle for ivory and skins for the market. The sportsman hunts for the trophies only. I selected Africa, near the equator, to hunt and bury myself—becoming practically dead to the world.

"When I left New York I took along a friend who had shot with me in the Rocky mountains, a man who was equal to any emergency. In making up a hunting expedition it is best to have men of several tribes. I had a hundred porters, ten policemen carrying Snider rifles, and eight gunbearers, with personal servants.

"I had thirty tents, accommodating five men each. We carried 10,000 rounds of ammunition with guns, revolvers, knives, and everything necessary for a complete African hunting expedition.

"We hunted from 6 in the morning until 10 o'clock, the hour for luncheon and rest. From 10 to 4 we staid in camp, then shot again from 4 until 6. The days were intensely hot under the equator, but among the highlands the nights were cool.

"It is curious that I never found a native who really knew how to hunt game. The Massi tribe knows nothing of stalking wild animals which roam in thousands around their villages. Many natives are killed by lions, leopards, and especially by the rhinoceros. I consider this animal the most dangerous of all.

"There are about eighteen varieties of horned game in eastern Africa. You find bunches of from one thousand to two thousand or three thousand

head of game, the giraffe, zebra, eland, gazelle, and hartebeest, herding together. The leopard is probably more dangerous than the tiger or lion, next to the rhinoceros the most formidable of all animals."

Bradley's expedition into Asia was even more thrilling. He was able to make the hunt through the courtesy of the Russian government, but he met with considerable trouble with the secret police. Finally, he was given what was said to have been the strongest credentials ever issued to a traveler in those parts.

"I shot through the mountains in June, July, and August," he wrote in reference to this expedition. "It was the mildest part of the year, yet the storms were terrific and the cold almost unendurable. Even in those summer months the blizzards raged, and I had to sit in my tent, wrapped in furs all day long, with nothing to do but just smoke and recall the scenes of my recent trip under the burning skies of equatorial Africa.

"The Atlai mountain sheep is the highest liver known. To get one of these animals requires a lot of dangerous climbing in a country so stupendous that you could drop Switzerland and a dozen Yosemite valleys into it and miss them.

"Hardly a day passed that I did not see from sixty to 100 sheep, but I could not get near enough to fire a shot. There were plenty of ibex, Mongolian gazelles, big gray wolves, bear, and deer, but it was the sheep that I was after. They are considered the hardest of game to stalk.

"I found the ibex, like the Rocky mountain goat, to be a stupid animal, always looking down instead of up. So if the hunter gets above them he can lie in wait behind the rocks until the animals are feeding on the moss below and then bring down the game.

In talking of Cook's trip Mr. Bradley took pains to explain that the Brooklyn explorer's success in reaching the North Pole was not so much the result of chance as the opinion of several polar experts would indicate. "This was no haphazard expedition," he said, "no intensified Arctic joy ride undertaken on nerve. We went about our preparations for this thing quietly and without brassband accompaniment, but every imaginable contingency had been provided for.

"We studied out the mistakes and misfortunes of other men who had tried for the pole, hoping to benefit by their errors, and we certainly benefited by their examples.

"I am not going to tell what the cost was, but I'll tell you this much: One single item of the equipment was 5,000 gallons of gasoline and another was

two barrels of gum drops. An Eskimo will travel thirty miles for a gum drop. His sweet tooth is the sweetest in the world.

"Now Cook has as much nerve as any man in the world, I guess, but he had something besides nerve to carry him through. I'm not trying to take any of the credit, but I want to say that he had the right kind of an outfit to take him through."

That this last statement was true was the testimony of Dr. Cook when the thrilling story of his exploit came from his own lips.

From the Washington Star

POLAR POSSIBILITIES.

CHAPTER III.

DR. COOK'S OWN STORY.

When Dr. Cook reached Copenhagen he gave a picturesque and detailed account of his travels. In fact, he gave it many times, such was the mad eagerness of learned men and laymen, of kings and men of humble position, to know all that he had seen and to drink in the wonders of the North. Cook was like one of the travelers of old who, returning from a far country to their homes, were beseiged by their friends and were wont to sit for hours in the great hall of a castle, telling and retelling the marvels that had befallen.

Perhaps the best account Cook gave of his dash to the pole was given to W. T. Stead, the noted London editor and publisher. Stead passed some hours with Cook and this was what he heard:

"Warning my Eskimos that only unyielding determination and patience could take us through the fight against famine and frost and that my success depended as much upon their loyalty to me as upon myself. I started for the North Pole on the morning of February 19, with ten men and 103 dogs drawing eleven heavily loaded sledges. Overcoming the reluctance of my Eskimos to leave the mainland of Greenland by argument that I would discover new hunting for them across the sound I marched my party out onto the quivering ice of Smith Sound. We marched in the dark, the daylight of the Arctic winter's end being limited to but a few hours. Gloom unrelieved even by the Aurora surrounded us. Progress was of necessity slow, the piled up ice forming veritable mountains in our path, over which we had in many instances to drag dogs and sleighs. The thermometer as we crossed the sound dropped to 83 degrees below zero, Fahrenheit. On the heights of Ellesmere Sound we suffered our first losses, several of our dogs being frozen.

"Game trails helped us along through Nansen's Sound to the Land's End. Musk oxen, Arctic hare and polar bears, which were comparatively plentiful, supplied us with food. It was, of course, necessary to eat raw meat as our supply of alcohol, the only fuel we carried, was being kept for extreme emer-

gency. From Land's End we pushed out into the polar sea on our battle against shifting ice to reach the southern point of Heilberg Island.

"Here I established the base for my final effort, selecting the two best men in my party, Ahweish and Stuckshook, with twenty-six of my strongest dogs.

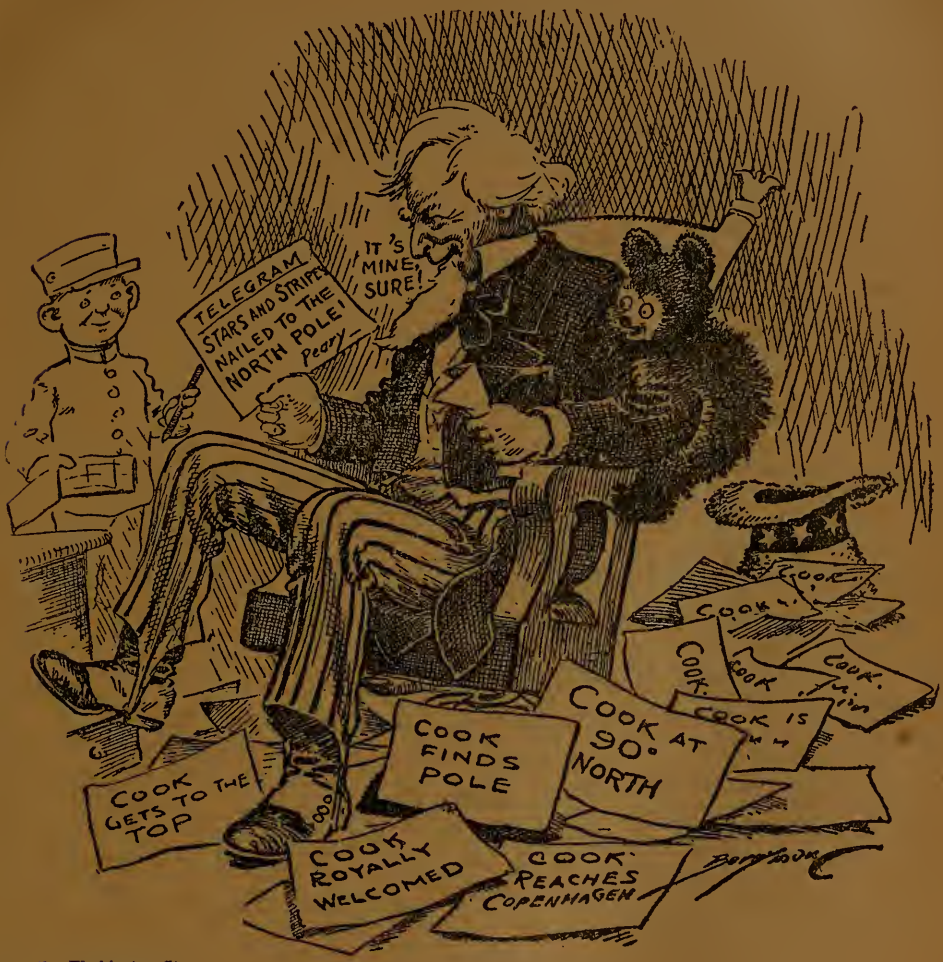
"Before me lay 460 miles of frozen waste broken by ice mountains devoid as far as we knew of game or anything to sustain life. On our sleds were supplies sufficient to last us with rigid economy just the distance we had to traverse and return and no farther. Added to the gloom of the Arctic night was an overcast sky, making accurate observation for several days next to impossible. Onward we went, marching along the level ice, scrambling, pushing, pulling, fighting over the ice hills. The motion of floating ice could be felt distinctly and served to frighten my two Eskimos who, however, after a few days' experience learned to disregard the possible danger of a breakup in open water.

"Straight on we went, guided mainly by compass, pressure of time and fear of exhausting supplies, rendering anything like accurate study of surrounding conditions impossible. On March 30 the atmosphere cleared a trifle, enabling me to make my first accurate observation, which showed that we were at latitude 84 degrees 0 minutes 47 seconds and longtitude 86 degrees 0 minutes 36 seconds. Here I found the last signs of solid earth. Before us was a moving sea of ice, devoid of everything living, every trace of anything animal. Neither footprints of bears, blowholes of seals, nor even traces of the microscope creatures of the deep could be detected.

"As we progressed the monotony of the ever moving sea of ice became almost unbearable. But cold, merciless, penetrating cold, more even than the object before us, drove us to almost frenzied effort to lay that sea behind us. Forward we went, lash of duty and merciless drive of extreme cold spurring us. So day by day we laid off the distance, dogs and men standing the strain with marvelous fortitude.

"Our first real glimpse of the sun we obtained on the night of April 7, when it swung out over the northern ice. Added to our hardships was the glare of the snow which rendered us almost snowblind at times. Sunburn and frostbite attacked us on the same day; dogs were becoming emaciated from the long march and savage; the patience of my Eskimos even was beginning to give way under the strain of that daily fight against the merciless, silent, grim ice. Weary legs scantily rested by the night's rest were yet eagerly spread over the distance to be marched for the day, the one impulse

of my men apparently being to conquer and return. On April 8 my observations showed us to be at latitude 86 degrees 0 minutes 36 seconds, longitude 94 degrees 0 minutes 2 seconds. Less than 100 miles in nine days.



From the Washington Star.

"Circuitous twists around ice hills too high to be conquered, troublesome pressure lines and old ice dangerous to our dogs and the men themselves forced us to lose much valuable time.

"Hasty stock-taking convinced me that we must push forward and make our distance within fourteen days or return with our goal unconquered. East-

ward the ice drift began to take us rapidly and with force that caused me the greatest anxiety. Still 200 miles from the pole and fourteen days the absolute limit in which to conquer that distance. But from here on our troubles began to diminish.

"The ice fields became more regular. Fewer crevices, with little crushed or old ice, made our progress astonishingly rapid. From the eighty-seventh to the eighty-eighth latitude, much to our surprise, we found signs of land. Positive evidence, however, was lacking. In fact, I knew not whether we were marching on land or sea.

"On the 14th I took another observation. Our position was shown as latitude 88 degrees 21 minutes and longitude 95 degrees 52 minutes. Less than 100 miles from the goal. Again the over-weary dogs were lashed into action. Once more our weary legs took up the march. Less than 100 miles to go, and still a quick calculation showed me enough provisions if we did it in six days.

"Our speed became a veritable race. The time was at hand for the last mustering of every energy. The goal was too near to be lost now. Snow shelters we gave up. We were too weary at the end of our marches to erect them. Huddled together, our dogs the same, we rested when weary and marched whenever possible. We tried our silk tent and found it served to shelter us perceptibly from the bitter cold. I imagined that I saw signs of land every day, but could not trust my senses under the strain. Onward we pushed, our horizon ever monotonous, uncrossed now by cloud or indeed anything. Mirages when the sun shone turned the world topsy-turvy. Observations were made at every step to guide us accurately.

"Steadily the ice improved until we appeared to be moving almost on a level glacial sea. Slower, despite frantic effort and ever growing impatience, our pace again became. The terrific speed of the past hours I saw clearly could not be maintained, but to try to stop my men appeared to be useless. Rest had become a farce to us. Even the dogs appeared impatient at the enforced stops. April 21 I stopped the party and prepared to take an observation. Rough calculation told me that I must be somewhere in the vicinity of the point I was seeking. I found that our latitude was 89 degrees 57 minutes 46 seconds. The North Pole was within sight!

"Fourteen seconds more we advanced slowly, almost painfully. The anxiety was terrible. Again, to make sure, I took an observation by the sun. It was correct. Our latitude was exactly 89 degrees 58 minutes. Forward

again we went, taking observations every few seconds. Finally we stopped. I believed I had reached the goal. Again, almost tremblingly, I took an observation. There was no mistake. A series of circular observations around the place where we temporarily halted proved me to be at the point.

"The North Pole was conquered!

"Conquered and in the nick of time, for our provisions even at the most economical calculation could not have lasted us had the northern march taken three days more. Forty-eight hours we remained in the vicinity of the lonely, cheerless spot, the goal of the explorers' ambition for centuries. I rested the men and dogs as much as possible in the dreary, chilly waste. Rest for me was impossible. The knowledge of the final conquest kept me in almost constant activity. April 23 I ordered the return.

"Our return journey, although marked by more hardship than our advance to the North, was nevertheless made lighter by the joy of duty accomplished. Although we were forced to kill several of our dogs for food and finally allowed those still living to run loose at the spot where we crossed the Firth of Devon into Jones Sound, we took our misfortunes more or less cheerfully and at Cape Sparbo, which we reached in September, we built an underground den and remained there until the sunrise of 1909, living on game killed with crude instruments and waiting patiently until the new day could take us back to tell the world of our triumph.

"February 18 the new start was made for Annootok. April 15 we reached the Greenland shores again. The rest the world knows."

Mr. Stead adds by way of comment:

"In surveying Dr. Cook's story it will be well to remember that all the hardships, the hair-breadth escapes, all the famine and the imminent prospects of death occurred not in the rush to the pole but on his return journey, especially in the last six months of his journeying.

"Public attention has been riveted upon his dash to the pole across the frozen Polar Sea. But that was with him, as with Peary, a comparatively swift, uneventful advance, kept up day after day at the rate of fifteen miles daily.

"If the western drift of ice had not carried him out of reach of the game lands at Herbert Island he would in all probability have been back twelve months earlier. The real hardships of Dr. Cook began not in high, but comparatively low latitudes.

"He has a far vivider recollection of the stirring events occurring last

winter than of the comparatively monotonous rush to the pole. He sees this polar journey at the end of a long vista of fifteen months, which were crowded with such stirring episodes, filled with such wearing exertion that—as he told me—it seemed as though all the cells of his body and brain were burned out and replaced in the fire of that strenuous life.

MAP DRAWN AND SIGNED BY DR. COOK, SHOWING HIS ROUTE TO AND FROM THE NORTH POLE. HIS AUTOGRAPH APPEARS IN THE UPPER LEFT CORNER.

"One thing stands out conspicuous—that this American citizen never discredited his country by any high falutin' vulgarity or ungenerous cavilling against any brother explorer.

He impressed every one, from the King of Denmark down, as a simple-minded, honest man, not a bit of a bounder. I believe him to be absolutely unprovided by nature with the necessary outfit of a fakir.

"Cook himself is certain that he got to the pole. He has a certainty that is as calm, as immutable, as the great pyramids."

A DIPLOMAT'S TRIBUTE TO DR. COOK.

Dr. Maurice Francis Egan, American Minister to Denmark, in a magazine article written shortly after Dr. Cook's return to the United States, tells in a straightforward way why he believes implicitly in Dr. Cook, and narrates interestingly some of his experiences with Dr. Cook in Copenhagen immediately following the explorer's return from the North Pole.

Dr. Egan had been prepared for the complete acceptance of Dr. Cook's story, which he now expresses, by the attitude of the Danes themselves, who relied upon the testimony of those who vouched for the intrepid traveler as much as upon his own, in view of their especial qualification for judging the veracity of anything that comes out of the frozen North. In the course of his introduction, leading up to the receipt in Copenhagen of the two cablegrams announcing Dr. Cook's discovery, Dr. Egan says:

"The people of Scandinavia are natural explorers. One cannot teach an Arab anything about the desert, and it would be a very audacious man who from southern regions would attempt to give lessons to a Dane or a Norwegian on the lands that lie above him or seas that lie beyond him. These people know by the instinct of long heredity, by constant study of the maps of Greenland and of the unknown lands of the waters that are lost in mist, the ways of the frozen North. They know the ins and outs of Arctic warfare as we know the character of the various States in our Union. To a Dane, Greenland, Iceland and the land which Cook has seen are subjects of perpetual interest. They are always looking toward the North, and expecting news from the mysterious North, and the sojourner among these people so learns to think and talk of the North and to be intensely interested in it. * * *

"Now the Danish officials in Greenland are cautious folk. They are not easily moved to praise or blame. And on matters concerning the north and the pole they are scrupulously conservative. No emotion, no sensation moves

them. They do not see the pole through the mirage of the south. When I noticed the signature to their telegrams I felt that they meant much.

"Here was a plain statement of a fact as stupendous as the first words Columbus uttered, to express the truth that he had added a new world to Leon and Castile. The news soon spread through Copenhagen, which had heard great news of Peary and Nansen before. The town was stirred as if Holger Dansker had risen from beneath the vaults of Kronborg Castle—the castle of Elsinore—and walked into the streets. Nobody questioned the truth of the story, for Knud Rasmussen's name is a talisman, and the officers in Greenland do not take travelers' tales seriously unless the travelers have serious claims.

"Later came testimony from the great Norwegian explorer Amundsen and from Captain Otto Sverdrup; and then the time of waiting. Even the boys in the street were waiting for Cook. A new Danish joke began to circulate. 'Do you believe that the cuckoo can prophesy?' 'Yes; once in the spring, I asked who should be first at the North Pole and it said, "Cook, Cook, Cook." '

CHILDREN TOOK OFF CAPS.

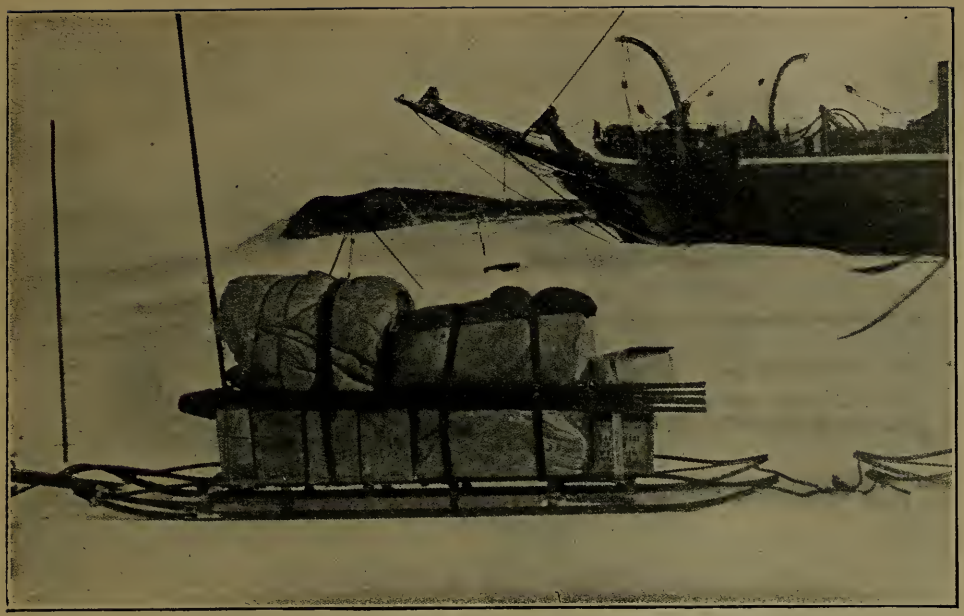
"The other day Dr. Cook drove with me through the streets of Copenhagen and along the Strandvej to Charlottenlund, one of the summer palaces of the King; even the little children waved their hands and took off their caps. If he had been an explorer crowned with the laurels won by the discovery of the South Pole, he would not have been so interesting to these little people, but he came from a country which they had heard about from the moment that they could hear at all—a country which is very near to them. * * *

"Coming, ardently expected, was a hero whom they could understand, and he needed no explanation. That he was approved of by Knud Rasmussen, half an Eskimo himself, who knows all the ways of the Eskimo, to whom the snow and ice are as the forest bark and leaves are to our Indians, was enough.

"To me, knowing Dr. Cook through his articles in the Century and Harper's, and through his entrancing 'First Antarctic Night,' it was a great pleasure to think of his coming, and to believe that he had added a new glory to Old Glory."

"How Cook Came and Went" is the title of Dr. Egan's articles, and he deals with details much more fully than have the cables. Coming down to the morning of Dr. Cook's arrival in Copenhagen, he continues:

"When I reached the environs of the harbor my coachmen would have found it impossible to get near the open space reserved for members of the



COOK'S SLED PACKED READY FOR THE DASH TO THE POLE.

PEARY'S WINTER QUARTERS—THE LOOKOUT WATCHING THE RETURN OF THE SLEDGE PARTY.

TRAINING ESKIMO DOGS FOR THE PEARY EXPEDITION.

Royal Geographical Society if it had not been for their red, white and blue cockades, for which a passage was instantly made. The Crown Prince was in position and tremendously interested. Near him was Commodore Hovgaard, commander of the King's yacht, to whom the success of the ceremonies attending the reception of Dr. Cook is largely due.

"It was a beautiful morning; the Sound never looked bluer or seemed to be more brilliantly flecked with silver spots. The crowd increased and I began to know what pain a President had to suffer under the process of congratulatory hand-shaking. The Crown Prince had an engagement to preside at the laying of the cornerstone of a students' building at ten o'clock. He is most punctual. When he goes to a ceremonious convention himself he is always there at the exact time. When his father, the King, goes he is invariably there five minutes before the time. We still waited. The Crown Prince concluded that the students would not be impatient, because they had the habit of taking 'the academical quarter of an hour.' At last the Hans Egede appeared. The expectancy of the great crowd grew intense and expressed itself in silence.

"The Crown Prince and the representatives of the Royal Geographical Society and myself entered the launch. In a short time we were on the deck of the Hans Egede.

PRINCE GREETS HIM.

"Doctor Cook, not by any means then the glittering butterfly of fashion into which a tailor later in the morning transformed him, stood at the head of the ladder. Prince Christian greeted him first; then I came. He smiled:—'You are the first American I have shaken hands with for over two years,' he said. Afterward he explained, with that careful regard for exact truth which is his characteristic, that he had in the meantime shaken hands with Mr. Whitney, but that he looked so much like an Eskimo that, for the moment, Doctor Cook had forgotten his nationality.

"The explorer in his rough and weatherbeaten clothes, resembled somewhat the familiar figure of Robinson Crusoe. Prince Valdemar, the Premier Admiral of the Danish navy stood near him and most enthusiastically congratulated the American people, through me, on this new glory to the American flag. The thing after we landed was to know how to get to our carriages.

"The Crown Prince, through the cleverness of his Chamberlain, got safely into his automobile, but Dr. Cook and Mr. W. T. Stead, whom I had invited to share my carriage, were with myself pinned tight in the enthusiastic, happy and energetic crowd. Dr. Cook had his sea legs on, which in a crowd are not

nearly so good as land legs; he had been so used to the swaying deck that the solid soil was new to him. Mr. Stead took him in his arms, held him tight and began to interview him at once.

"It took at least ten minutes to be propelled through a sea of applauding and hand shaking people. I owe it entirely to the honesty of a Copenhagen tailor that my coat tails were not torn off and that I was lifted up the steps of the home of the Geographical Society with no loss except one button. I am afraid that if the aegis of the United States had not been upon me, which was both a halo and a nimbus on this day, at least one of my ribs would have been broken. The adventure recalled a Georgetown football game on Thanksgiving Day.

"Dr. Cook was forced to make a little speech, and then, led by a private way, he finally reached his hotel. There was to be no rest for him, however. Knowing this, I arranged that he should come to the Legation to lunch in quietness.

THE DANISH FAREWELL.

"When he left Copenhagen on the afternoon of the tenth, on his way to meet the Scandinavian-American liner Oscar II," Dr. Egan writes, "he was the center of admiring throngs. Among those last to say farewell was Count Christian Holstein-Ledreborg, the son of the Prime Minister, sent by his father to see him off.

"Flowers were showered upon him. Old men and women asked to clasp his hand, and at that moment he was the hero of this nation of Vikings. His speeches on receiving the very high honor of the Royal Danish Geographical Society's medal and on being made an honorary Doctor of Philosophy in the University of Copenhagen were brief, direct and simple. This university knows perfectly well how to blend in its functions solemnity, simplicity and brevity. None of these functions ever occurs without music forming part of it, and a great part, and the cantata for an orchestra of stringed instruments which preceded the short speeches was an admirable preparation for them.

"On Friday, when he left, he was loaded with honors and followed by the acclamations of the people. He stood for a few moments on the upper deck of the Melchior. Admiral de Richelieu had toasted him, the center of a crowd in the cabin; but now he stood alone, and the cheers that greeted him were as much a tribute to his personal character as to his epoch making exploit. Kindly, simple, firm and sincere, he had in a short time made the sons of the Vikings love him."

CHAPTER IV.

THE EXPLORER'S RETURN TO CIVILIZATION.

"I planted the stars and stripes in the ice field, and my heart grew warm when I saw it wave in the wind."

These were Dr. Cook's words when, on September 4, he arrived at Copenhagen, Denmark, to receive the greeting of a vast crowd and to be congratulated by the king of that nation.

"Let the skeptics who disbelieve my story go to the north pole. There they will find a small brass tube which I buried under the flag."

This was what he said when he learned that the truth of his statements had been questioned. A storm of discussion, of sneers, and of disbelief was raging in every nation. Scientists were wagging their heads. People were divided into camps. And in the Danish capital the sun-browned hero of the north calmly received callers and told them further incidents of his trip.

"On April 21," he said, "we looked for the sun. As soon as we got it I made several observations. Great joy came over us. We were only sixteen miles from the desired spot. I said to myself, 'Bully for Frederick.' Then we went on.

"The last stretch was the easiest I ever made in my life, although I had still to make two observations and the ice was broken. But my spirits were high and I shouted like a boy. The Eskimos looked at one another surprised at my gaiety. They did not share my joy.

"I felt that I ought to be there. I made my last observation and found that I was standing on the pole.

"There is nothing to see there but ice; no water, only ice. There were more holes there than at the eighty-seventh degree, which shows there is more movement and drift there; but this and other observations I made afterwards, when I got more settled. I stopped two days at the pole, and I assure you, it wasn't easy to say good-by to the spot.

LAUGHS AT THE SCOFFERS.

"As I was sitting at the pole I could not help smiling at the people who on my return would call the whole expedition a humbug. I was sure the people would say that I had bought my two witnesses and that my notebook with my daily observations had been manufactured on board this ship.

"The only thing I can put up against this is what the York Eskimos have told Knud Rasmussen. That tube which I buried under the flag contains a short statement about my trip. I couldn't leave my visiting card, because I didn't happen to have one with me.

"Perhaps I should have staid there longer had it not begun to freeze us in our idleness. The Eskimos were uneasy and the dogs howled fearfully. On April 23, therefore, I again turned my nose southward, which was much easier, as you cannot turn your nose in any other direction when you stand at the pole."

Describing the return journey, Dr. Cook said:

"Fortune now smiled. We made twenty miles a day until we reached the ominous eighty-seventh degree. Then I felt the ice moving eastward, carrying us with it. A terrible fog swept around us and kept us there for three weeks. We got no farther than the eighty-fourth degree. Then began a heavy walk towards Heibergsland and another three weeks of fog. When that cleared I saw we had drifted southwest of Ringnesland, where we found open water and tower high screw ice, which stopped our way eastward.

"We now began to suffer hunger. Our provisions were becoming exhausted and we were unable to find depots. We entered Ringnesland and on June 20 found the first animals on our return—bear and seal. We shot a bear.

"And now our goal was the whalers at Lancaster Sound. We followed the drift ice to the south. Eighty miles a day, but were stopped by pack ice in Wellington Channel, which was impassable either by boat or sledge. Here was lots of game, but we did not dare shoot it. We had taken only a hundred bullets to the pole and now only fifteen were left. We went into Jones Sound after walrus and found open calm water. We met polar wolves, with which some of our dogs made friends and ran away.

"Now we spent day and night in an open boat ten miles from shore. This lasted for two months, while storms often raged over our head. At last we got ashore again, but we had no fuel and were obliged to eat birds raw. One day we found fuel, and what a feast we had. But we suffered

much hunger during this period. One night a bear came and stole our food. We had many fights with musk oxen, which attacked us. Our best weapon against them was the lasso.

"Two or three days we had nothing to eat. Then, in a crevice of the ice, we caught sight of several walruses. I had only a few cartridges left. I crept along the ice on my stomach, approaching the animals slowly, so as not to scare them. I expended all my cartridges and as a result secured two of the walruses. Our lives were saved."

It was after describing these hardships that the haggard traveler, his hair matted and long and his eyes hollow with suffering, cried, in a burst of joy at beholding the faces of white men once more:

"I am the happiest man alive. Tell the whole world I thank God I am back."

"Rumors about our insufficient equipment were all false," said he. "No expense had been spared to provide an expedition for every contingency. To show you we prepared for every emergency, let me explain but one phase of our equipment. When the yacht was loaded all were promised a delightful cruise, with study and recreation.

"When we arrived at Smith's Sound, the limits of navigation and the limits of man's habitation, it was found that many of the best families had gathered at Anvolok for the winter bear hunt. This summer chase had been very successful. Great catches of meat had been gathered; more than one hundred dogs voiced the Eskimo prosperity. With abundant supplies taken aboard there, we had the nucleus for a polar expedition.

"Tins were secured and everything was prepared against humidity. Boxes, which later made excellent building material, were taken along. With these boxes we built a house and at the end of the first day we slept under our own roof comfortably sheltered from the storm.

"Now I cannot give you but a general outline of our journey. We had many days and weeks of suffering. The outcome of the venture seems to be sufficient reward for the expended energy. The art of Arctic sledging has been advanced; a new highway with an interesting strip of animated nature has been examined. Big game haunts have been located which will extend the Eskimo horizon and delight the sportsman.

"The boreal center has been pierced, new land has been discovered, and if we allow a horizon about fifteen miles to each side of our course a triangle of about thirty thousand square miles has been cut out of the Arctic blank.

In relating further incidents of his expedition, when there remained but two faithful Eskimos as an escort as he plunged over the vast extent of polar seas, Dr. Cook gave another version of the final dash. On approaching the pole, he said, the icy plain took on animated motion, as if rotating on an invisible pivot.

"A great fissure then opened up behind," he added, "and it seemed as if we were isolated from the world. My two Eskimos threw themselves at my feet and, bursting into tears, refused to continue either one way or another, so paralyzed with fear were they. Nevertheless, I calmed them and we resumed our journey.

"You ask my impression on reaching the pole. Let me confess I was disappointed. Man is a child, dreaming of prodigies. I had reached the pole and now at a moment when I should have been thrilled with pride and joy, I was invaded with a sudden fear of the dangers and sufferings of the return."

The most northerly land he saw was between 84 and 86 degrees. There were two bodies of land at this point east of his route. One was about 1,000 feet high. He could not say whether they were islands or not, as he was not equipped to make a detour to explore them.

Dr. Cook said he was strongly of the opinion that no white man could reach the pole unless he was able to wear the same clothes, eat the same food and live in all ways just as do the Eskimos. He said he owed his success largely to choice of a route where game was more plentiful on the routes formerly attempted, and to the fact that he traveled in winter.

Although the lowest temperature experienced was 83 degrees below zero, the explorer said he did not feel the cold nearly so much then as in higher temperatures when the wind was blowing.

For a long time the explorer lived on musk oxen; he wore the fur of these animals, ate their meat and used their fat to burn in lamps.

By way of contrast with Dr. Cook's description of polar scenes is given this word picture by one of his predecessors:

"The air was warm, almost as a summer's night at home, and yet there were the icebergs and the bleak mountains, with which the fancy, in this land of green hills and waving forests, can associate nothing but cold repulsiveness. The sky was bright and soft, and strangely inspiring as the skies of Italy. The bergs had wholly lost their chilly aspect, and glittering in the blaze of the brilliant heavens, seemed in the distance like masses of burnished metal or solid flame. Nearer at hand, they were huge blocks of

Parian marble, inlaid with mammoth gems of pearl and opal. One in particular exhibited the perfection of the grand. Its form was not unlike that of the Colosseum, and it lay so far away that half its height was buried beneath the line of the blood-red waters. The sun, slowly rolling along the horizon, passed behind it, and it seemed as if the old Roman ruin had suddenly taken fire and were in flames.

For further comparison, take this passage, from Capt. McClure's account of his discovery of the northwest passage in 1850:

"I cannot describe my feelings. Can it be possible that this water communicates with Barrow's Strait, and shall prove to be the long-sought northwest passage? Can it be that so humble a creature as I am will be permitted to perform what has baffled the talented and wise for hundreds of years? But all praise be ascribed unto Him who hath conducted us so far in safety. His ways are not our ways: nor the means that He uses to accomplish His ends within our comprehension. The wisdom of the world is foolishness with Him."

MAP OF NORTH POLE EXPEDITIONS
Scale of Miles
0 100 200 400 600
McClure, 1850-53
2 German Expeditions, 1869-70
Nordenskiold, 1878-79
De Long, 1881.
Nansen, 1893-96
Sverdrup, 1898-1902
Abruzzi, 1899-1900
Peary, 1906
ARCTIC CIRCLE
NORTH POLE
GREENLAND
ALASKA
BERING SEA
ALEUTIAN ISLANDS
Greenwich
Long. 70° West
East 60° from Greenw.
Long. 50° Greenw.

CHAPTER V.

A NATION'S HOMAGE TO A HERO.

Such were Dr. Cook's first scattering accounts of his journey. Before he could calmly give forth his proofs and furnish the facts scientists were awaiting he was caught in the whirl of a reception such as rarely falls to a man's lot.

The explorer arrived in Copenhagen on the Hans Egede at 10 o'clock in the morning of September 4. As soon as the steamer entered the harbor it was boarded by Crown Prince Christian, heir to the throne of Denmark, by Maurice Francis Egan, the American minister to Denmark, by the Danish minister of commerce and by committees representing various public bodies. These extended to Dr. Cook a formal welcome in the name of the Danish nation and the city of Copenhagen.

It was a weather beaten and shabby but elated hero who was welcomed, and with the same honors that are customarily used in the greeting of royal families.

Dr. Cook stood on the bridge of the Hans Egede wearing a shabby brown suit that had been loaned to him by a seaman. On his head was a disreputable old cap, and his feet were clad in leather moccasins. His blond hair was long and shaggy and his mustache rough and straggling. His complexion was sallow, but his face was full. He was a strange figure for the center of such a brilliant scene as greeted his return to civilization.

A bright sun lit up the blue waters of Copenhagen harbor. Ships and yachts on every side were gay with flags and the shore and piers were crowded with people.

Two big American flags flanked the landing stage where Crown Prince Christian and other notable personages awaited for one hour the appearance of the Hans Egede. Hundreds of small boats containing sightseers swarmed over the waters of the harbor. Many of these boats were filled with American tourists waving the stars and stripes.

When the Hans Egede was a mile away, slowly coming in with an en-

thusiastic following of small craft in her wake, Crown Prince Christian and the members of his staff embarked on a launch which took them to the side of the steamer bearing the explorer.

The moment the anchor was dropped the crown prince sprang up the gangway, Dr. Cook, at the same time, appeared at the head of the ladder and awaited the prince.

The people in the surrounding boats, who had expected from the newspaper pictures to see a bearded man, recognized the explorer for the first time and sent up a loud cheer.

Prince Christian, who is a tall and handsome young man, was dressed in a silk hat and frock coat. He grasped the hand of Dr. Cook and congratulated him.

The ceremonies on shipboard concluded, the entire party, including the explorer, entered the launch and started toward the city.

When the launch approached the pier with Prince Christian and Dr. Cook side by side, a tremendous roar of cheers burst out from the people on shore and from the assemblage of small craft, including yachts, motor boats, landing boats from the Russian warship in the harbor and racing shells, clustered thick about the pier.

Dr. Cook stepped ashore and in an instant the police were powerless as children to make a way for the party. Dr. Cook and those about him were engulfed and swept along by a clamorous crowd. Minister Egan and the Danish officials literally clung to Dr. Cook. Together the party fought its way desperately to a point near the Meteorological institute. Dr. Cook was bruised and capless and part of his sleeve was torn off.

"I used to be a football player, but this is the worst I ever saw," he panted.

Dr. Cook and Mr. Egan finally succeeded in reaching a balcony of the institute. The people crowding the streets and the adjoining park yelled frantically when they appeared. Mr. Egan waved his hand toward Dr. Cook as an introduction, whereupon the explorer made a brief address in English.

"My friends," he said, "I have had too hard a time getting here to make a speech. I can only say that I consider it an honor to be able to put my foot first on Danish soil."

After more cheering Commodore Hovgaard took Dr. Cook in a carriage and drove with him through the crowded streets to the Phœnix hotel, where he became the guest of the Geographical Society.

The hallways of the hotel were decorated with American flags and masses

of flowers. Johan Hansen, the minister of commerce, and a committee of the Geographical Society gave a reception to Dr. Cook at the hotel. The minister made a speech of welcome, in which he said:

"Before retiring to your much-needed rest, Dr. Cook, I hope you will give us an opportunity of bidding you welcome to Denmark. I thank you on behalf of my countrymen for the noble deeds which you so successfully have performed."

The minister then invited Dr. Cook, on behalf of the government, the municipality and the Geographical Society, "as our honored guest," to a banquet tonight at the town hall.

Dr. Cook thanked the minister "for the very kind reception you already have granted in Denmark, and with which I feel most delighted."

Minister Hansen, over a bottle of champagne, then led in "Three cheers and a long life for Dr. Cook."

The members of the reception committee withdrew and were succeeded by a numerous delegation of tailors, bootmakers and barbers. The explorer placed himself in their hands, and several tradesmen were at work on him at the same time.

At the end of an hour Dr. Cook emerged with his hair neatly trimmed, his mustache cropped close and in a new suit, hat and boots. He then went to the American legation and had luncheon with Minister Egan.

In the evening a banquet was held in the magnificent municipal building. Four hundred persons, many of them women, attended, while thousands congregated in the streets in a drenching rainstorm to catch sight of the explorer when he entered.

There was a preliminary reception in the lofty and spacious entrance hall. The spectacle with so many of the men wearing orders must have impressed the explorer by contrast with his recent experience. The company marched upstairs to the air of the "Star Spangled Banner." After all had been seated the minister of commerce, Johan Hansen, escorted Dr. Cook to the chair of honor amid a demonstration which caused him to color deeply.

Minister Egan sat at Dr. Cook's right, with the Mayor of Copenhagen and Miss Egan beyond. Mrs. Gamel, a wealthy Copenhagen woman, who has contributed extensively to arctic exploration and has been closely identified with it, was at the chairman's left. The menu presented a lithograph of the crown prince greeting Dr. Cook and a map of the arctic circle, giving Dr. Cook's route and a facsimile of his autograph, with the date.

The speeches teemed with compliments to Dr. Cook. The Mayor of Copenhagen first rendered tribute. Minister Egan briefly proposed a toast to the King of Denmark, and the corporation president, in proposing a toast to the President of the United States, spoke of the pride that must be felt by the nation which could boast that it was her son who first planted the flag where no human being had ever before set foot.

The minister of commerce, in proposing the health of Dr. Cook, paid a warm tribute to "his noble deed." He thanked him for spending a little time in Denmark and said that the privations of the explorer were appreciated most by the men of Denmark whose names are written with honor on the ice rocks of Denmark's northern colony.

When the nation was first thrilled by the news of Cook's exploit he said he must confess there was some skepticism, but afterward it was confirmed, and he hoped that Dr. Cook would try for the south pole with the same success.

When the minister raised his glass to "Our Noble Guest," there were nine hurrahs.

Commodore Hovgaard spoke from the standpoint of an expert explorer and commended Cook's methods.

Dr. Cook replied in a few words, modestly saying:

"I thank you very much for the warm and eloquent words, but I am unable to express myself properly. It was a rather hard day for me, but I never enjoyed a day better. The Danes have taken no active part in polar explorations, but they have been of much importance as silent partners in almost all arctic expeditions in recent years. The most important factor in my expedition was the Eskimo and dog world and I cannot be too thankful to the Danes for their care of the Eskimo, and now they also have instituted a mission at Cape York. Had I not met with the right Eskimos and the right dogs and the right provisions I could not have reached the pole. I owe much to the Danish nation for my success."

A telegram was read conveying the congratulations of the King of Sweden for "a brilliant deed, of which the American people may rightly be proud."

On the same day Dr. Cook was received in private audience by King Frederick of Denmark. The explorer was presented to the monarch by Minister Egan. The queen and her three daughters were present.

It remained only for the hero to receive tribute from the chief magistrate

of his own nation. This came the same evening when Dr. Cook sent the following cablegram to President Taft:

"Copenhagen, Sept. 4.—President, the White House, Washington: I have the honor to report to the chief magistrate of the United States that I have returned, having reached the North Pole.

"FREDERICK A. COOK."

The president, who was at his summer home in Massachusetts, replied as follows:

"Beverly, Mass., Sept. 4.—Frederick A. Cook, Copenhagen, Denmark: Your dispatch received. Your report that you have reached the North Pole calls for my heartiest congratulations, and stirs the pride of all Americans that this feat which has so long baffled the world has been accomplished by the intelligent energy and wonderful endurance of a fellow countryman.

"WILLIAM H. TAFT."

Further honors were in store for Dr. Cook in Denmark. On Sept. 9 the degree of doctor honoris causa ("doctor because of having achieved great honor"), was conferred on him by the University of Copenhagen in the presence of Crown Prince Christian of Denmark and a distinguished gathering.

FAITH IS UNSHAKEN BY PEARY.

Professor Torp, rector of the university, in presenting the diploma to Dr. Cook, spoke of the admiration his achievement had aroused in the university.

In expressing his thanks Dr. Cook said he accepted the honor as testimony of the genuineness of his journey. He promised to send the university his complete records, and he said it was his intention to dispatch a ship to Greenland at his own expense to bring down the two Eskimos who accompanied him on his expedition. This was later given up. In conclusion the doctor said:

"I can say no more, I can do no more; I show you my hands."

Dr. Cook's words in referring to the records he said he would send the university were:

"I can produce all desirable evidence that I reached the North Pole."

He added that his Eskimo companions would be taken to New York, where they could be examined by impartial men of science.

The function of conferring the degree was impressive. The ceremony took place in the great hall of the university in the presence of a company numbering 1,200 persons, including a number of scientists.

In honor of Dr. Cook the entire body of professors and students entered the hall in procession. They were accompanied by the Danish ministers of education and commerce and Maurice F. Egan, the American minister to Denmark. An orchestra rendered one of Beethoven's symphonies.

Professor Torp said that the honor conferred on Dr. Cook was the highest in the gift of the university.

The professor complimented the explorer on the courage and self-sacrifice which enabled him to go where no human being has even set his foot before. He declared that Denmark and the United States would now be neighbors in the far North.

Then, warming up to his subject, Professor Torp said with enthusiasm that the Danish people not only admired Dr. Cook for his deeds, but also because he was an American.

When Professor Torp handed the parchment to Dr. Cook, the explorer arose to reply, but he was unable to speak for five minutes on account of the continued applause.

A crowd of more than 1,000 persons that had congregated outside the hall cheered Dr. Cook as he left, and followed him to his motor car.

On Sept. 10 Dr. Cook left Copenhagen by sea for Christiansand, Norway, where he boarded the steamer Oscar II, which sailed for New York the following day. A large crowd bade him farewell.

When Dr. Cook boarded the special steamer that took him to Christiansand the water front was lined with spectators and the ships in the harbor were dressed with flags.

Committees from the Geographical society and the faculty of the University of Copenhagen saw the explorer off. A director of the company owning the ship on which Dr. Cook traveled made an address in which he thanked the explorer for the honor of leaving on a Danish ship. He said that while envy and jealousy had been at work, Denmark believed in Dr. Cook absolutely.

The ovation to the explorer was continued when he reached Norway. Special honors were shown him by orders from King Haakon.

The greeting given Dr. Cook savored strongly of the triumphal return to his own country of a victorious warrior.

It was 11 o'clock in the morning by the time the vessel from Copenhagen had cast her anchor a cable's length from the Oscar II.

From daylight, however, Christiansand had been watching for the entrance of the Melchior. Every vessel in the harbor was gayly decorated with flags, and all the available small craft had been chartered to bring out sightseers from the shore.

A salute of seven guns was fired from the deck of the Melchior and answered by seven guns from the Christiansand fort. This honor was accorded Dr. Cook, a civilian, by direction of the king.

As soon as the smoke of the saluting guns had cleared away steam launches darted out from the shore bearing the civil and military authorities to the vessel with Dr. Cook on board.

The explorer awaited the officials on the bridge of the Melchior. M. Cold, the manager of the Scandinavian Line, who had accompanied him from Copenhagen, stood by his side. The ship's band played "The Star-Spangled Banner" while the Norwegian deputations paid homage to the explorer.

When the municipal authorities boarded the vessel the Burgomaster of Christiansand delivered a speech of welcome, in which he congratulated the explorer on his achievement.

Dr. Cook, in his reply, eulogized the explorers of Norway.

POLE, POLE WHO'S GOT THE POLE?

THE POLAR ORDER OF PRECEDENCE.
The Explorers arranged in the order of distance from the Pole prior to 1908.

DR. FREDERICK A. COOK.
Clad in furs ready for his dash to the Pole.

CHAPTER VI.

COOK'S PREPARATION FOR HIS GREAT TASK.

While Dr. Cook was being thus honored by rulers and mobbed by his admirers, people everywhere were passing through alternating feelings of trust and disbelief.

History never furnished a keener topic of argument. Nothing in the realm of invention or of discovery could seem more impossible than that a comparatively little known traveler had actually done what men had failed in for so many centuries. As soon as the first news flashed over the wires two camps arose: Those who threw up their hats and hurrahed, and those who said, "I don't believe it. Who is this Cook?" Everybody who had a tongue to talk with joined in the clack of tongues. Scientists gave out weighty reasons for and against. A few preferred to withhold any comment until the explorer could furnish his proofs. Many others broke into the open with statements purporting to show how Cook could or could not have done it. It was even suggested that the doctor might be the victim of mania, and have imagined he reached the pole. Hints were thrown out that Cook had always been a "faker," and that he had carefully prepared for the claim of his discovery before he even left America.

But had Cook always been a "faker?"

A glance at his career seemed to prove the contrary.

Frederick A. Cook was born June 10, 1865, and was therefore forty-two years and ten months old when he discovered the pole. He passed his forty-third birthday while struggling back across the ice fields to the nearest place of human habitation; his forty-fourth in a Greenland settlement, awaiting strength to move on again.

He was of German-American parentage. The family name was originally Koch. Frederick's birthplace was the little town of Callicoon, in Sullivan county, New York state, among the hills of the upper Delaware River.

When still a youth he sought his fortune in New York City and after working his way through the College of Physicians and Surgeons there he

succeeded in establishing for himself a practice of the profession in that city.

As a surgeon of the Peary expedition, in 1891-92 at the age of 26, he first identified himself with the work of arctic exploration. On this expedition he was the first scientist who devoted special attention to the studies of the arctic highlanders.

In 1894 he organized the famous Miranda expedition of sportsmen, scientists and explorers. Though the Miranda never returned from this trip, Dr. Cook won fame for himself through an incident of the expedition when their ship was disabled at Sukkertoppen, by leading the party safely through a perilous trip in an open boat to Holsteinberg, where they obtained relief. Later he shared with the late Captain Dixon of the Gloucester schooner Riegel, the arduous duty of the return voyage.

In September, 1897, Dr. Cook was honored by the appointment to the post of surgeon of the Belgian antarctic expedition. Two years after he had joined the ship at Rio Janeiro to assume his new position he returned with the party all in good health and with the loss of only one man. He had performed the unique feat of leading the crew safely throught the first antarctic night. For this service he received gold medals from the Geographical Societies of Belgium and was given the rank of chevalier from King Leopold. Dr. Cook later published the narrative and a resume of the scientific work of this expedition in a volume entitled "Through the First Antarctic Night."

As surgeon of the Peary "Erik" auxiliary expedition in 1901, Dr. Cook revisited the scenes of his northern work of ten years before. A year later he married Miss Mary Hunt in Brooklyn.

On October 3, 1906, just three years after he led the first expedition to attempt the approach and ascent of the unknown Mt. McKinley in Alaska, he satisfied his ambition and reached the summit of the unexplored mountain, 20,464 feet above the surface of the Pacific Ocean. Dr. Cook's was the first ascent of this mountain on record, and he achieved success only after repeated failures and many thrilling adventures, which he described in his book, "To the Top of the Continent."

A member of the party that accompanied Cook to Mt. McKinley has described some of the incidents of the trip, as well as Cook's bearing on that occasion. Says this man:

"He was a quiet man and did not talk much and was not given to boasting of his deeds. I have been with him for weeks at a time among the mountain

ranges of Alaska and I never knew him to be untruthful or to misrepresent anything whatever.

"When he failed in 1903 to reach the top of Mt. McKinley he came back and frankly admitted his failure. There are those who doubt that he reached the top on his second attempt, but I went with him far enough to know that he did reach the top, and Jack Grill, an old Montana rancher, went to the top with him."

Mount McKinley is the highest peak in America. Its altitude is more than 20,000 feet and its summit had never before been scaled by man.

"I left Seattle on the steamship Santa Anna May 1, 1906, bound for Nome, to do some prospecting," said the man quoted above. "On the ship I became acquainted with Dr. Cook through a Seattle newspaper photographer, who was a member of Cook's party.

"We were together a great deal and when he learned how well I knew the country in Alaska he proposed that I should go with him and take him around the mountain to the most accessible point. I agreed and landed at Seldovia at the entrance of Cook's inlet with the party.

"The Eskimos at Susitna laughed at these people and called them 'cheek hawks,' or tenderfeet.

"Finally, as the summer wore on, the 'cheek hawks' gave it up and went back. Dr. Cook, Brill, the Montana rancher, and I went to the mouth of the Chulitna River and there found the 'hog back' leading from the foothills up the side of the mountain. Cook and Brill went up this 'hog back' and reached the top September 15. Two days later they returned to the camp where I was waiting."

Henry Collins Walsh, secretary of the Explorers' Club, New York, has told of one of Dr. Cook's Arctic expeditions as follows:

"My first meeting with Dr. Frederick A. Cook was in the spring of 1904, when he had organized our expedition to make a summer trip into the Arctic regions and for which he had chartered the ill-fated steamer the Miranda. I became a member of this expedition and was its historian.

"The Miranda, it will be recalled, had many mishaps, colliding with an iceberg off the coast of Labrador, which necessitated a return to St. John's, Newfoundland, where the ship was repaired, and later to run on some hidden reefs off the coast of Sukkertoppen, South Greenland. In this encounter the bottom was torn off the Miranda, but its balance tank saved it from sinking.

"We arranged to steam back to Sukkertoppen, an Eskimo settlement with

a Danish governor, and from there Dr. Cook with a small party set out to look for assistance. He finally got in touch with a Gloucester fishing schooner, the Rigel, commanded by Captain Dixon. The big-hearted captain gave up his fishing trip, the first that he had attempted off the coast of Greenland, and came to the rescue of the Miranda and her party of stranded explorers. The Miranda and the Rigel were connected by cable and, the steamer towing the schooner, started for home.

"Dr. Cook and the rest of us took up our quarters on the Rigel, the officers and crew of the Miranda alone remaining on that ship. On the second night out, however, a stormy one, the ballast tank of the Miranda began to give way and a signal of distress went up from the Miranda, and dories manned by the Rigel's crew went over to the Miranda and brought over the officers and crew of that ship. The cable connecting the two vessels was cut and the Miranda was abandoned to her fate upon the high seas.

"She contained all the worldly collections we had brought with us, our extra clothes, outfits, guns, ammunition, stores, etc., and all the collections that various members had made in Labrador and Greenland, probably rather undigestible food even for Arctic fishes. After dodging for a time among icebergs, the little Rigel finally landed seventeen days later at Sydney, Cape Breton Island, whence the wrecked party had no trouble in making its way back to New York."

Mr. Walsh also tells some of Dr. Cook's personal traits:

"Naturally, at the meetings of the Explorers' club and at the meetings of its officers and directors, I was thrown in much with Dr. Cook, and also had the pleasure at times of visiting him in his own home, and always found him a delightful and hospitable host, and it was pleasant to see the kindly domestic side of this man who spent so many years in wild and far-away places, where the gentler and domestic side of a man has little chance of development.

"I was minded of Bayard Taylor's well-known couplet:

"The bravest are the tenderest,
The loving are the daring."

"I have been asked to tell something about Dr. Cook's pastimes and favorite amusements, but as far as I know he seems to care but little for the ordinary pastimes and amusements. I have never seen him play any game of cards, but in one of the upper rooms of his Brooklyn home he had a pool

table around which he occasionally took relaxation. We had some games of pool together, but as neither of us was at all expert at the game, nothing remarkable can be recorded except perhaps some remarkable scratches.

"I remembered that on one occasion, after the doctor had made a remarkable shot, aided by Providence, I put up my cue and remarked that I could not play against the combination of the Almighty and a polar explorer. It was a case of cold feet.

"I do not think that Dr. Cook was ever much given to outdoor sports, either; at least, I never heard him dilate upon any of his own experiences along these lines, though he was, however, very fond of automobiling. At his home he had many relics of his various exploring trips, and naturally our talks ran much in the channels of exploration, and it gave me great pleasure when I was able to draw him out in regard to some of his own remarkable experiences, for I doubt if any man living has had more."

From the Philadelphia Record Herald

TWINS.

CHAPTER VII.

PEARY FINDS THE POLE.

At this point it becomes necessary to leave the narrative of Dr. Cook for a time and record the extraordinary fact that a second message came from the far north; a second hero appeared to receive his share of glory.

On September 6, 1909, a telegraph operator in the New York office of the Associated Press, the great news-gathering agency, heard the call of the wire. He answered. As he wrote down the words that tapped on the instrument at his side an incredulous smile spread over his face.

Another man had discovered the North Pole!

This was the message:

"Indian Harbor, Labrador, via Cape Ray, Sept. 6.—To Associated Press, New York: Stars and Stripes nailed to North Pole.

"PEARY."

In a few minutes the dispatch was in the office of every newspaper in the world. There were more incredulous smiles. It was enough to have spent five days recording so astonishing a fact as the discovery of the North Pole; and now came a second claim and in a short time the Peary telegram was thundering out from the big presses to startle the world.

What doubt there was did not have to do with Commander Peary's veracity, but with the genuineness of the dispatch itself. That some joker was busy was the prevalent theory. This, however, was speedily disproved. Commander Peary, besides wiring and sending a duplicate message to Reuter's Telegram Co., a similar news agency in London, had telegraphed to Herbert L. Bridgman, secretary of the Arctic Club in New York. There could be no question this message was from Peary. Besides the earmarks of truth in the wording itself, the dispatch was in cipher code known only to the New York official and to his friend in the north.

Said this message:

"Indian Harbor, via Cape Ray, N. F., Sept. 6.—Herbert L. Bridgman, Brooklyn, N. Y.: Pole reached. Roosevelt safe.

"PEARY."

And then there was a third telegram, revealing a heart bounding with joy, and eager to express itself to a loved one. It read:

"Indian Harbor, via Cape Ray, Sept. 6, 1909.—Mrs. R. E. Peary, South Harpswell, Maine: Have made good at last. I have the old pole. Am well. Love. Will wire again from Chateau.

"BERT."

These, with a few messages to other men, none of which added to the information contained in the foregoing, was all that was heard of Peary for several days. He did not find the same facilities for an immediate description of his trip that Cook did. He was sailing along the Labrador coast; intent on reaching a large seaport as soon as possible. And he was content for a time with sending the bare news of his victory. Only the date, of his discovery—April 6, 1909—and the fact he and his ship were safe; that was all he vouchsafed.

And with this silence the clamor of the debaters, and the fever of speculation, rose higher. Higher, indeed, than they had over the mere question of Dr. Cook's veracity. For now two men were involved in a gigantic problem that concerned whether one man's story discredited the other, and raised the question which was first at the pole.

The Peary advocates, who had already, openly or by hints, sought to pour cold water on Cook's claims, at once declared Peary's news was true, and that he was the real discoverer. One of the most enthusiastic of these was Rear-Admiral Melville, of the United States navy, himself an old-time explorer, who said:

"If Peary has telegraphed that he has found the pole, I believe it, and say bully for him.

"I have known Peary personally for a long time and as he was well equipped for an expedition I think he had at least as much chance as Dr. Cook had for discovering the pole. Peary was within 200 miles of the pole in his last expedition and was prevented from going there by the opening of the ice packs. He has been gone long enough to have reached there.

"It was the crazy dispatches purporting to have come from Dr. Cook about the condition he found there and other things that caused a doubt in my mind

about Cook having found the pole. The dispatch from Peary makes the situation most interesting."

On the other side of the water, where the chief purveyors of opinion, the London newspapers, had been chary of accepting Cook's claims, the news from Peary was received with acclaim.

The Daily Mail said editorially:

"Just at the moment when men were saying that only the evidence of an independent witness who himself had visited the North Pole could establish beyond question or cavil the claim of Cook, that very witness has appeared in Peary, an explorer whose statements are accepted by the whole scientific world without doubt or hesitation.

"Baffled and beaten back time after time, he has known how to win a victory in the end. Indomitable has been his perseverence, iron his fortitude, heroic the spirit which has led him to laugh at every disappointment, and thus, by sheer strength of character, to reach his self-appointed goal.

"As the glory of attaining the north pole has been denied to British effort, all in this country will rejoice it has fallen to one of our kinsmen over the sea and to such a kinsman. America well may be proud of sons like Commander Peary.

"Greatly as Commander Peary's achievement would have moved the world at any time, coming at this moment it has a special and absorbing interest. Only a few days have passed since the claim of Cook to have reached the North Pole was made known to the public. The long message in which he recounted his journey was by general consent pronounced unconvincing and the further particulars which he communicated since landing at Copenhagen have not removed all ground for doubt. Though Danish scientists of high reputation accept his claim, a large section of the public still entertains doubts and asks why it is he has not brought with him his journal and detailed observations to establish the truth of his statements. Now, on the very eve of the day on which Cook will receive a gold medal from the Danish Geographical society, a witness comes forth from the unknown who has looked upon the pole."

One of the most conservative of London journals, The Standard, had this to say:

"No discredit is cast on Dr. Cook's story by assuming that the success of a more experienced and better known voyager must be capable of verification. For the present, therefore, we must hail and congratulate Peary as the discoverer of the pole, subject only to the reservation that a prior claim has been ad-

vanced and remains to be verified. Happily both claimants are citizens of the United States and one possible reason for bitterness does not exist. In any case, the American stars and stripes float literally or metaphorically in the coveted breezes of the northernmost point of the globe."

A Chicago scientist, Prof. T. C. Chamberlain, of the University of Chicago, said:

"A message that had the real ring back of it, the ring of solid gold, was the one to Peary's wife in which he declared, according to one dispatch from her home, that he had found 'the darn old pole.'

"One has to appreciate the hardships and trials which Peary has suffered in his former defeats to know just how much the success means to him. The message to his wife was the typical outburst of enthusiasm which I should expect after the success of his long-attempted discovery.

"I have known Peary for a long time and I know him to be a man of his word. He is ambitious and it was always his great desire to be the first to plant the American flag on the most northern spot in the world."

To show how those closest to Commander Peary received the news there must be told here the manner in which it came to Mrs. Peary. She was staying in Eagle Island, Me., across a bay from South Harpswell, the village in which Mrs. Cook was passing the summer,—another of the singular coincidences of this remarkable history.

A newspaper correspondent, just provided with the news from New York, had hurried to Eagle Island, and to the cottage of the Pearys. There he found Marie A. Peary, the sixteen-year-old daughter of the explorer. The girl cried "Glory, mamma. Papa has been heard from."

And then, seizing the message containing the news of Peary's discovery from the hands of the correspondent, Miss Peary rushed upstairs to bear the glad and wonderful tidings to her mother, who only a few minutes before had gone to her room with a headache.

An hour and a half later, Arthur Palmer, the storekeeper at West Harpswell, arrived at Eagle Island with a personal telegram from the intrepid Arctic explorer to his wife and family.

When Mrs. Peary arose that morning and looked out across the broad expanse of the Atlantic Ocean to be seen from the Peary summer home she was so impressed by the beauty of the day and the scene before her that she remarked to her daughter:

"With such a beautiful day as today we surely ought to hear good news."

All day Mrs. Peary watched across the bay separating Eagle Island and South Harpswell for approaching boats which might bear some message for her. Shortly before 4 o'clock the boat of Stephen Toothaker stopped off the

From the Washington Star.

island and Mr. Toothaker hurried ashore. Mrs. Peary was so sure he had some message from her husband that she rushed down to the beach to meet him, only to find that he had brought word that she was wanted at a telephone three miles away.

Mrs. Peary had been so sure that it was a message of a different kind that she went back to the cottage and retired to her room. At 4:10 the correspondent arrived and delivered the dispatch announcing the safe arrival of Peary at Indian Harbor.

The surf was rolling high on the beach and it was impossible to land without wetting one's feet. When the Peary cottage was reached Miss Marie Peary was reclining on a couch in the pleasant sitting room and was the only member of the party to be seen.

She came to the door and almost by intuition asked if there were good news for her.

"Mrs. Peary was not slow in coming downstairs when she heard the news, and when asked for an interview, said:

"What do you want me to say? God bless you, I'll say anything. I'm tickled to death."

Then she added:

"I can't find words to express my feelings. Mr. Peary's twenty-three years of work and hardship have been crowned with success. God bless him."

CHAPTER VIII.

PEARY'S SUCCESSFUL VOYAGE.

The start of Commander Peary's victorious journey to the pole was far different from that of Dr. Cook. The latter kept his plans secret from all but a few intimates; his ship went north in the guise of a hunting expedition. Peary, on the other hand, set sail with acclaim of crowds and the Godspeed of hosts of friends. Furthermore, he received the enthusiastic best wishes of Theodore Roosevelt, then president, after whom Peary's vessel was named.

Peary and his party left New York July 6, 1908. Forty guests of the Peary Arctic Club, along with Commander and Mrs. Peary, accompanied the steamer to City Island and returned to the city later on the navy tug Narkeeta.

Commander and Mrs. Peary and Herbert L. Bridgman, secretary and treasurer of the Arctic Club, left later for Oyster Bay to have luncheon with President and Mrs. Roosevelt. President and Mrs. Roosevelt inspected the vessel and Capt. Bartlett continued upon his long journey, heading for Sydney, Cape Breton.

The crowd that lined the pier cheered Peary enthusiastically as the boat left New York.

Peary took off his hat and waved a handkerchief in acknowledgment. Most of the guests had gotten there ahead of him. Gen. Thomas H. Hubbard, president of the Arctic Club, and Mr. Bridgman were in charge. Among those present were: John W. Flagler, Anton Raven, Henry Parish, Mr. and Mrs. William Guggenheim, Arva B. Johnson, president of the Philadelphia Arctic Club; Dr. Theodore Le Boutillier, secretary of the Philadelphia Arctic Club; Mr. and Mrs. Robert Guggenheim, and C. K. G. Billings.

Just before sailing Peary went below to see that all the gifts he was taking to the Eskimos were safely aboard. Money does not look good to those in the far north and it takes looking glasses, silver thimbles, shot guns and things like that in the way of presents to coax them along. Likewise Peary dropped in to see if Dave Henson, the negro cook, was in his proper place.

Dave has been with him on each trip. His work was to boss the Eskimo drivers and hunters. Dave speaks their native tongue with ease.

The Roosevelt left its landing at the foot of East Twenty-fourth street on the minute. It was pushed into the river by the Narkeeta, and such a din as went up hasn't been heard in those parts for some time. A hearty-looking ferryboat started the fun by tooting a regular salute of three short blasts. This was taken up with a vim by a dozen yachts of the New York Yacht Club. Then came the din of the crowd on the recreation pier, yelling itself hoarse to the accompaniment of the whistles of numerous factories along the river shores.

Capt. Bartlett at first tried to acknowledge all the salutes, but they came so fast that before proceeding with his task he ordered a chair and made himself comfortable on deck with an improvised rope up to the whistle. He tooted until the steam gave out and it was up to the Narkeeta to answer for awhile, and the navy folks certainly did the thing up in style. No craft was too little or too big or too squeaky to get a speedy acknowledgment.

Possibly the greatest reception the little ship got was from the Mayflower, the president's yacht, which was anchored off Whitestone, Long Island. The ship was manned in a hurry, and after a salute was tooted the jackies set up a cheer that brought Peary from the lower deck in a hurry. He doffed his hat and waved his handkerchief like a good fellow, and was tickled clear down to his shoes. To cap the climax, the Mayflower's occupants slowly dipped the American flag aft. Peary himself answered this by dropping his flag in the same fashion. The incident stirred his navy blood and the veteran skipper danced around like a boy.

The Roosevelt left Sydney, N. S., July 26. It was next reported at Domino, Labrador, July 29, from which point it crossed to Greenland. It passed Cape York August 7, 1905, and reached Etah August 16 of that year. The expedition's auxiliary steamer Erik, in the meantime, had visited various settlements in Greenland and secured natives and dogs for the explorer and turned them over to the Roosevelt. At Etah the Roosevelt overhauled its machinery, took on board the last supply of coal from the Erik and thence proceeded north with Eskimos to the number of twenty-three on board and about 200 dogs.

Peary's start from Etah on the second stage of his journey into the far north in search of the pole was described in a letter received in New York October 8, 1908, from Capt. Samuel W. Bartlett.

The letter was written by Capt. Bartlett on his arrival at St. John's, N. F., after carrying supplies to the Peary expedition in the steamer Erik. Capt. Bartlett said the weather conditions at Etah were anything but pleasant. It had been an unusually wet and foggy summer and Peary's departure north in the Roosevelt was delayed twenty-four hours because of dense fog and high winds.

It had been planned to start on August 17, but it was the 18th before the steamer got away. The fog was still dense, but Capt. Bartlett said he was sure the Roosevelt had a good trip up Smith Sound, as the prevailing winds were south, which would pack the ice over on the Greenland side. Nothing was seen of the Roosevelt after it left Etah harbor.

Commander Peary's own story of his preparations for his dash toward the North Pole, dated Etah, Greenland, September 20, 1908, follows:

"Here we are at Etah, the Roosevelt stripped and sponged for the second round. As when the Roosevelt headed away across the gulf of Maine from Pollock Reef lightship, so now, on heading due north from Sydney harbor, the weather was of the finest.

"Here the little tug which had accompanied us thus far swung off and turned back, carrying Mrs. Peary and the children, and Borup's father with two or three friends.

"Throughout the night we steamed steadily northward across Cabot Strait with Polaris shining directly over the fore topmast. This in striking contrast to three years ago, when we crossed the straits in dense fog to the accompaniment of a long swell which kept the main deck constantly awash. In the forenoon we passed Cape Ray, and in the afternoon the magnificent headland Cape St. George.

"Early the day following we entered the harbor of Cape St. Charles and dropped anchor in front of the whaling station just as the costal steamer Prospero passed out with numbers of tourists on board.

"Two whales captured the day before offered opportunity for securing some whale meat without delay, and I immediately engaged one, which was at once hauled out on the slide, while Bartlett, with Marvin, McMillan, and Borup, took one of the whaleboats and pulled across to Battle harbor, some five miles distant, to learn what was the outlook for whale meat at Hawke's harbor by wireless.

"About noon Bartlett and the boys returned with news of abundance of whale meat at Hawke's harbor, the supply engaged here amounting to about

18,000 pounds. It came late in the afternoon and was hoisted on the quarter deck between the coal bags and the after end of the deck house. This done, we steamed out, and with the big lugsail set to a following breeze and the engines just barely turning over, we drifted down the coast toward Hawke's harbor, so as to arrive early in the morning.

"We had expected to run direct for the Greenland coast from here, but a consignment of Labrador skin boots which were to have been at Hawke's harbor were not here, and I determined to follow the coast to Turnavik land, where they were.

"In a continuance of fine weather we came in sight of Turnavik late in the afternoon of the following day. Before reaching the island, however, we encountered a furious thunder storm, and finally dropped anchor amid a half gale. At the island ice was reported a few miles outside, and this, with the darkness and the force of the wind, resulted in our lying at Turnavik until the next morning.

"The weather now for the first time was distinctly dirty, wind, rain, fog and seething of a sea. All these, however, moderated in the afternoon. In the evening it came off entirely clear, and for some three hours we passed through a stream of scattered, waterworn and rotten ice. After this the weather continued fine, with light, favoring westerly winds until Saturday evening.

"Saturday night we ran into fog, and for the first time encountered an uncompromising head wind, which continued with distinct violence until late Monday and then with less force throughout Tuesday.

"During a portion of this time there was a pronounced sea running, and for the first time the Roosevelt had the experience of driving dead on through a head sea. No ship could make rapid progress under these conditions (our log from noon Monday to noon Wednesday was eight-four miles), but in every other way the Roosevelt proved satisfactory in this test as in others which she has encountered. She rises easily, meets and parts the waves readily and recovers from a lunge buoyantly and without shock. Of course her length is an important factor in this. I could not help thinking how uncomfortable the poor little, stumpy Fram would be under similar circumstances.

"Following is a complete roster of those who are with me on board the Roosevelt:

"John W. Goodsell, surgeon of the expedition, was born of native Pennsylvanians at Leechburg, Pa., January 19, 1873. He is 35 years of age, unmarried, 5 feet 10 inches in height, and weighs 200 pounds. In addition to

DR. COOK'S ARRIVAL FROM NORTH POLE.

Dr. Cook is the man on the left, with a pleasant grin and his hand to his cap, just as he left the launch which brought him from the ship. Mr. Stead, the veteran journalist, is the man with the soft hat in the center of the group. The man towering above the crowd on the right of the photograph is the representative of royalty, the Crown Prince of Denmark, who went to the wharf to give Dr. Cook a hearty welcome and congratulate him on his successful exploration trip.

PEARY'S PARTY PREPARING WINTER QUARTERS IN THE ARCTIC REGIONS.

his work as a general practitioner, Dr. Goodsell built up a considerable practice as a consulting microscopist. Dr. Goodsell expects to make a special investigation of tubercular conditions among the natives and the curative effects of the Arctic atmosphere.

"Prof. Ross G. Marvin of the college of civil engineering, Cornell University, is on leave of absence from that institution in order to complete the work begun on the previous expedition of 1905-'06. Prof. Marvin is 28 years of age, 5 feet 11 inches in height, and weighs 160 pounds. He received the degree of A. B. from Cornell University in June, 1905, and immediately upon graduation was chosen as my secretary and assistant for the expedition of 1905-'06.

"Donald B. McMillan, an assistant in the expedition party, was born in Provincetown, Mass., November 10, 1874. He is 33 years of age, unmarried, 5 feet 9 inches in height, and weighs 165 pounds. He comes from a family of seafaring people.

"George Borup, an assistant in the expedition party, was born at Sing Sing, N. Y., September 2, 1885, a son of Lieut. Col. Borup, U. S. A., retired. He is 23 years of age, 5 feet 8½ inches in height and weighs 155 pounds.

"Matthew Henson, Commander Peary's personal assistant, was born of negro parentage at Washington, D. C., August 8, 1867. He is 41 years of age, 5 feet 10 inches in height, and weighs 150 pounds.

"Charles Percy, steward of the Roosevelt, is one of the men who have been with her since she was built. Born of native parentage at Brigus, N. F., September 15, 1850, he is now 58 years old, 5 feet 11 inches tall.

"Capt. Robert A. Bartlett, sailing master and ice navigator of the Roosevelt, was born at Brigus, Conception Bay, near St. John's, N. F., August 15, 1875. Thirty-three years of age, 6 feet tall and weighing 170 pounds, he is the ideal type of the hardy Newfoundland sealer and fisherman. His great-uncle, Capt. Isaac, rescued the Tyson party from an ice floe after their perilous drift of many months. His uncles, Capt. Harry, Capt. John, and Capt. Sam, have all made trips into the Arctic at various times in command of ships.

"His father, Capt. William Bartlett, is a successful sealer and fisherman with a thriving fishing station at Turnavik island, on the Labrador coast.

"Bank Scott, second engineer of the Roosevelt, is the second new officer aboard the Roosevelt. He was born at St. John's, N. F., July 4, 1880, 28 years of age, 5 feet 9 inches in height, and weighs 150 pounds.

"Other members of the crew are Seamen John Barnes, John Cody, and

Dennis Murphy; Oilers John Bentley and Patrick Joyce; Firemen Richard Butler, George Percy, Patrick Skeans, and John Wiseman, and William Pritchard, mess boy.

"Thomas Gushue, mate of the Roosevelt, is a new officer aboard the ship. Born of native parents at Grigus, Conception bay, Newfoundland, November 3, 1861, he is 47 years of age and 5 feet 10 inches in height. His sea service

From the Washington Star.

THE POLAR DISPUTE GETS VERY EXCITING.

covers about thirty years. For the last fifteen years he has been master of various fishing schooners.

"John Murphy, boatswain of the Roosevelt, was born of native parents at St. John's, N. F. He is 35 years of age, 6 feet tall, weighs 175 pounds and is married, having a wife at his home at St. John's.

"George A. Wardell, chief engineer of the Roosevelt, was born of Yankee parents at Bucksport, Me., February 16, 1861. He is 47 years of age, 5 feet 11 inches tall, and weighs 240 pounds.. He is married and has a wife and one son at his home in Bucksport. He learned his trade as a marine engineer in the shipyards where the Roosevelt was later constructed."

Then came the last message, received by Peary's New York friends October 16, 1908. It said:

"This is the last word I will be able to send forth for at least a year.

"Before us lies the great ice pack stretching for a distance of 200 miles, and against its mighty force the sturdy little Roosevelt must set its prow.

"By February 1 we expect to be in a position to make the dash for the pole."

CHAPTER IX.

EARLY LIFE OF PEARY.

The career of Commander Peary, like that of Dr. Cook, has been given over almost wholly to adventure and exploration. With Peary, however, it has been, almost from the first, a ceaseless quest for that farthest north both now have seen.

Peary is a veteran of the Arctic. A chronology of his trips into polar seas is as follows:

1886—Reached 70 degress north latitude on Greenland's inland ice cape, east of Disco Bay.

1891-92—Discovered Melville Land and Heilprin Land and proved Greenland an island, working as chief of the expedition of the Academy of Natural Sciences of Philadelphia. Reached latitude 81 degrees 37 minutes north.

1893-95—Failed to reach northern Greenland, but discovered Iron Mountain.

1896-97—Brought Cape York meteorites to the United States.

1898-1902—Rounded most northerly cape in the world—Cape Morris, 83 degrees, 39 minutes—and reached "farthest north," 84 degrees 17 minutes. In command of expedition of the Peary Arctic Club.

1906—Attained nearest point to the pole at that time, 87 degrees 6 minutes.

1909—Reached the goal of his ambition at last.

Before presenting a narrative of these voyages, some account must be given of the youth that went to mold Peary's illustrious maturity.

Polar exploration was the great passion of Peary's life. That passion had its beginning when, as a boy, he read the story of Kane's exploits in the far north. Through all vicissitudes of fortune, changes of circumstances, alterations in environment, his mind seemed to turn steadily and constantly toward the North Pole. At an age when young men of his age were just entering upon their life careers, Peary set forth upon his first expedition into the land of eternal cold.

Peary was born in Cressen, Pa., May 6, 1856. As a boy he was big and boisterous. After he had finished the work of the schools at Cressen his parents

sent him to Bowdoin. He was graduated there at the head of a class of fifty-one, being in addition the school's prize essayist. His mother, of notable character, exerted a great influence on the development of her son. She went to the college town with him and made him a home where his friends were always welcome.

At the end of his college career Peary astonished his friends by going out to the little town of Fryeburg in the mountains of Maine, where he became a land surveyor. At 23 he got a place in the coast and geodetic survey at Washington. Thereafter he spent two years patiently making maps. Then suddenly he rented a room and spent several weeks at mysterious studies. When finally he gave up the room he surprised his fellow employes by announcing that he intended taking the examination held by the Navy Department for the admission of engineers. When the records of that test were compared it was found that out of the forty who took it, Peary was the youngest of the four who passed.

In the very first year of his naval service he was ordered to make a report on plans for a new pier for Key West, Fla. Contractors had given up this pier as impossible of construction at the figure set by the government. Peary reported that the pier not only could be built, but that it could be built for at least $25,000 less than the government estimate.

The Secretary of the Navy ordered Peary to build the pier himself. When the pier was finished it was found that he had saved the Navy Department $30,000.

In 1885 an incident occurred which started him on his first expedition northward.

"One evening," he writes, "in an old bookstore of Washington I came upon a fugitive paper on the inland ice of Iceland. A chord, which, as a boy, had vibrated intensely in me at the reading of Kane's wonderful book, was touched again. I read all I could on the subject and felt that I must see for myself what the truth was of this mysterious interior."

No record of the life of Commander Robert E. Peary could be complete which did not include an account of the loyal part his wife played in it.

Mrs. Peary is possessed to a marked degree of some of the characteristics of her husband. By virtue of native ability, persistence and remarkable courage she has carved for herself a place in the history of polar exploration unequalled by any woman in the world.

Mrs. Peary, whose maiden name was Josephine Diebitsch, was born and

educated in Washington, D. C. As a girl she was fond of outdoor exercise and upon reaching womanhood she was possessed of an uncommonly rugged constitution. She was married to Commander, then Lieutenant Peary, in 1888 and first accompanied him on an expedition into the north in 1891. This was when her husband headed the Arctic expedition of the Academy of Natural Sciences of Philadelphia, the trip lasting until September, 1892. She also went with the explorer in 1893, when for two years he devoted himself to explorations in Greenland. On both occasions Mrs. Peary went with her husband as far as the winter quarters in Greenland.

It was while they were on the last Arctic trip that a baby was born to them. This occurred September 12, 1893, on the northwest coast of Greenland at Bowdoin Bay, Inglefield Gulf, 77 degrees 40 minutes of north latitude. The baby was christened Marie Ahnighito Peary, the second name meaning "snow baby." The Eskimos gathered from far and near to see the child and called it the "snow baby" because of the whiteness of its skin. In using the latter appellation they spoke of it as "Ah-Poo-Mik-A-Nin-Ny."

In addition to Marie, the Pearys have a son, Robert E. Peary, Jr. Mrs. Peary is an honorary member of the Philadelphia Geographical Society and the American Alpine Club, and honorary vice president of the Alaska Geographical Society. Among her writings is a volume entitled "My Arctic Journal," written in 1894, and "The Snow Baby," published in 1901.

CHAPTER X.

PEARY'S FINAL DASH

"It's just like every day."

Capt. Bartlett, navigator of Peary's ship and his faithful companion through two Arctic journeys, said the above as he and his chief were toiling within a few hundred miles of the pole. The remark gives the keynote to Peary's manner of describing a great feat. True to the traditions of the navy, as well as to those of the serious explorer, Peary adopted a calm, matter-of-fact tone in his narrative. His statements were brief, clear and cold. His various accounts of the trip have the lofty serenity, the contempt of sentiment, natural to one who has conquered himself as well as the pole.

Like Cook, Peary stood practically alone amid the desolation of "farthest north." Cook had with him two Eskimos who, as described by him, were panic-stricken and prayed to their deity for deliverance. They were in no sense sharers of the emotions of their white master. And so it was with Peary, with the difference that his colored personal attendant was there to witness the triumph. One Eskimo—who was there—Egingwah by name—no doubt looked on rather cynically at Peary's deeds. He was a mighty hunter and a great man in Greenland, was Egingwah. What cared he for a pole or two?

Here was a situation never to be duplicated in any branch of human endeavor. Let the reader's imagination picture Peary, wrapped in his seal-skins, and with hard determined face peering out from his hood, drawing rein there at the coveted finish of the race; stopping in the glittering, lonely plain of ice; searching the horizon in vain for some animate thing; then taking his observations and proving he stood under the north star, at latitude 90! He, too, like Cook, felt as if he were the happiest man alive. He did not know there was another "happiest man," whose joy was due to the same cause. He supposed his eyes to be the first ever to have gazed upon that scene; yet, a year before a rival explorer had set up the glittering instruments that made the Eskimo's eyes grow big, and had looked up to the sky in thankfulness to providence.

That Peary sent back all his white companions and pushed on alone to the

pole caused a little surprise when first it became known. Yet is was recognized as just that the leader and inspirer of it all should have the glory. His were the risks; then why not his the honor? So, with bitter disappointment perhaps, yet with unquestioning obedience to orders, the faithful companions of Peary stopped, one by one, within a few days' march of the pole and let him go ahead with his one swarthy companion.

The expedition started in sections, as was Peary's cautious habit.

Capt. Robert A. Bartlett and George Borup started February 27 from Cape Columbia, with a number of Eskimos and dogs, on the march across the ice, heading north. On March 1 Commander Peary left Cape Columbia with his party, consisting of seven white men, seventeen Eskimos and 136 dogs. On March 4 Peary came up with Bartlett, who had pitched his camp at the side of a lead of water which it was impossible to cross. The combined parties had to wait until March 11, seven days, before further progress was possible. The sun was seen for the first time March 5, and an observation showed that the explorers were a short way from the eighty-fourth parallel. The supply of alcohol was running short, and Borup returned to Cape Columbia for a fresh stock.

On March 14 Borup overtook Peary again and brought a supply of oil and alcohol. The division under Prof. Ross G. Marvin joined Peary the same day. At this point Prof. Ronald B. McMillan was sent back, his feet having been badly frozen.

Peary deeply regretted the necessity of sending McMillan back, as this member of the party was young and an athlete,—a valuable man on the trail. His departure left a party of sixteen men, with twelve sledges and one hundred dogs. These pushed on with all speed, dashing over the ice and making a handsome spectacle as they sped over the white expanse.

Thus far little really severe weather had been encountered, but there was constant peril from the "leads," which kept opening and showing startling depths of black water, almost under the runners of the sledges. Once one of the men—George Borup, a Yale University man—fell in, with his dog team, and emerged half-frozen. Another time a huge lead opened just after the whole caravan had passed over. Had it broken under them, some or all of the travelers would probably have drowned in the terrible icy water.

Indeed, tragedy was even then threatening the expedition. Prof. Ross Marvin, of Cornell University, was to be the sole victim of the great polar victory. His last duty for Peary was performed when he broke the trail as far as

latitude 86:34. At that point he turned back, by the Commander's orders. As Marvin's sledge sped away, Peary shouted after him, perhaps with an intuition of what was to come, the warning, "Look out for the leads!"

And then, while Peary was making his last successful march, Marvin disappeared in one of those treacherous patches of water, and was seen no more.

To return to the dash for the pole:

Borup had turned back at latitude 85:34. With his departure and that of Marvin, together with their Eskimos, the party consisted of Peary, Bartlett, Matthew Henson, the colored man who has been Peary's personal assistant on so many of his expeditions; the Eskimos, seven sledges and sixty dogs, and the journey northward was resumed. The ice was perfectly level as far as the eye could see. Bartlett took the observation on the 88th parallel, leaving Peary, Henson and four Eskimos, with provisions for forty days, to make the final dash to the pole.

And now was to come the final test of Peary's courage; the supreme hours in his life. He had already passed beyond his own northern record, and had outstripped all others as well. He stood on the very threshold of success. The next few hours were to tell whether the summit of all polar ambition was to be his. One must fancy him, on that last pause before the ultimate effort, solemnly wondering what was to be the end.

But the conditions to be faced were too severe to permit of doubt, or even of serious thought for the future. The weather had thickened; heavy snows covered the path ahead; the man and dogs were feeling the strain. Peary found himself constantly inspiring the others from his own limitless stores of courage.

The reduced party started the morning of April 3. The men walked that day for ten hours and made twenty miles. They then slept near the 89th parallel. While crossing a stretch of young ice 300 yards wide the sledge broke through. It was saved, but two of the Eskimos had narrow escapes from drowning.

The ice was still good and the dogs were in great shape. They made as high as twenty-five miles a day.

The next observation was made at 89.25. The next two marches were made in a dense fog. The sun was sighted on the third march and an observation showed 89:57.

The pole was reached April 6 and a series of observations were taken at 90. Peary deposited his records and hoisted the American flag and other banners. The temperature was 32 degrees below zero (Fahrenheit). The pole appeared

as a frozen sea. Peary tried to take a sounding, but got no bottom at 1,500 fathoms.

Peary stayed at the pole for thirty-four hours and then started on his return journey the afternoon of April 7.

The flags hoisted at the pole were:

Silk American flag presented to the Commander fifteen years ago, and a piece of which he left at his northernmost point on each of his expeditions.

The naval ensign.

Flag of the Delta Kappa Epsilon fraternity.

A flag of peace.

Peary's attendant, Henson, told a story that gives some graphic details of the supreme moment when the pole was reached. Said he:

"We arrived at the pole just before noon, April 6, the party consisting of the commander, myself, four Eskimos, and thirty-six dogs, divided into two detachments equal in number and headed respectively by Commander Peary and myself. We had left the last supporting party when we separated from Capt. Bartlett, who was photographed by the commander. Capt. Bartlett regretted that he did not have a British flag to erect on the ice at this spot, so that the photograph might show this as the farthest north to which the banner of Britian had been advanced.

"Our first task on reaching the pole was to build two igloos as the weather was hazy and prevented taking accurate observations to confirm the distance traveled from Cape Columbia. Having completed the snowhouses, we had dinner, which included tea made on our alcohol stove, and then retired to rest, thus sleeping one night at the North Pole.

"The Arctic sun was shining when I awoke and found the commander already up. There was only wind enough to blow out the small flags. The ensigns were hoisted toward noon from tent poles and tied with fish line.

"We had figured out the distance pretty closely and did not go beyond the pole. The flags were up about midday on April 7 and were not moved until late that evening. The haze had cleared away early, but we wanted some hours to make observations. We made three close together.

"When we first raised the American flag its position was behind the igloos, which, according to our initial observations, was the position of the pole, but on taking subsequent observations the stars and stripes were moved and placed 150 yards west of the first position, the difference in the observations being due perhaps to the moving ice.

"When the flag was placed Commander Peary exclaimed in English: 'We will plant the stars and stripes at the North Pole.' In the native language I proposed three cheers, which were given in the Eskimos' own tongue.

"Commander Peary shook hands all around and we had a more liberal dinner than usual, each man eating as much as he pleased. The Eskimos danced about and showed great pleasure that the pole at last was reached. For years the Eskimos had been trying to reach that spot, but it was always with them 'Tiqueigh,' which, translated, means, 'get so far and no closer.' They exclaimed in a chorus, 'Ting neigh timah ketisher,' meaning, 'We have got there at last.' "

Henson, who reached the farthest north with Peary three years ago, said that conditions were about the same at the pole as elsewhere in the Arctic circle. All was a solid sea of ice with a two foot lead of open water two miles from the pole. The Eskimos who went along on the final lap were Ootah, Egingwah, Ouzadeeah and Sigloo, the two first named being brothers. Commander Peary took photos of Henson and the Eskimos waving flags and cheering.

"We could see no open land," continued Henson. "The ice near the igloos was at least ten feet high and the flags were placed on a hummock twenty feet in height. The ice at the pole is about the same as on the journey up, all rafted in between with small floes. Nearly all the winds we had were from the northeast. Commander Peary had three thermometers, and the coldest day was 57 degrees below zero Fahrenheit. I believe there is a little difference in the temperature at the pole from that some distance south."

Henson learned from the Eskimos that for three days in Whale Sound in August, 1909, they saw a cloud of smoke and there was an odor like brimstone. The natives were greatly frightened, and Henson thought a new volcano had erupted and so informed them.

On the return the marches were continuous and Peary and the Eskimos suffered greatly from fatigue. They had their first sleep at the end of the eighth march from the pole in the igloos left by Bartlett. Here there was a violent snowstorm.

It was April 23 before the exhausted and excitement-fevered travelers saw the land again. Then they came to Cape Columbia. The Eskimos were overjoyed to see land, for, though faithful to the last in Peary's service, and full of confidence in him, they had made up their minds to a terrible fate. When they

saw land they offered up strange prayers of thankfulness to their gods, and then, with their chief, turned in for solid rest.

All slept the sleep of the dead for the most of two davs, occasionally waking and giving the time to drying their clothing. After repairing their ice-damaged sledges and giving the long-suffering dogs a thorough rest they resumed their journey and reached the ship Roosevelt, April 27.

How the crew of the Roosevelt cheered when they spied their gallant chief coming over the ice-fields with his caravan. One shout, "We got to the pole," and all knew that the hope of all was a reality.

It was not until Peary reached his ship that he learned of Marvin's fate. The story of the professor's death was obtained from one of the Eskimos. April 10 Marvin was forty-five miles from Cape Columbia. He started out that morning walking ahead. The Eskimos were delayed in packing the sledges, a fact that permitted Marvin to get a good start on them. When the Eskimos arrived at an open lead they noticed that the young ice was broken about twenty-five yards out and they saw what looked like a man's body floating in the center of the lead.

Owing to the treacherous condition of the ice the Eskimos could not venture out. They returned to the Roosevelt and reported. Captain Bartlett then went back to the point they designated and recovered Prof. Marvin's spare boots, clothing and personal belongings, which were still on the ice where the Eskimos had left them. The superstitions of their race prevented the natives from bringing the dead man's effects with them. Prof. Marvin's records and observations were saved.

One of Peary's first acts on reaching civilization was to telegraph to L. C. Beamont, of Ithaca, N. Y., who was a member of the Peary relief expedition of 1901, as follows:

"Break news of Marvin's death to his mother immediately before she sees it in the papers. Drowned April 10, forty-five miles north of Cape Columbia while returning from 86.39 north latitude. Great loss to me and to the expedition. Every member sends deepest sympathy. PEARY."

Through friends in Elmira, N. Y., where Marvin's aged mother lived the message was conveyed to her. A movement had been started to give Mr. Marvin a great welcome on his return from the north and the members of the family were planning a celebration on his homecoming.

Ross Marvin was born Jan. 28, 1880. He graduated from the high school in Elmira, won a scholarship to Cornell university and worked his way through

college, standing high in all his studies in the science course. He applied to Peary for a position on the 1906 Peary expedition and proved of such great service that the commander sought him out and induced him to go with him on the trip that succeeded.

Marvin never knew of his success.

In the course of a four-hour talk in the attic of a fish house, in September, before starting for Sydney, N. F., Commander Peary revealed more of the details of his dash to the pole, the danger of his task, his methods of avoiding disaster and death and his final triumph than he has yet made public.

On the deck of the Roosevelt as it laid in the narrow head of this barren rock-bound harbor he was found by a searching party of newspaper men, to whom he gave this greeting:

"Gentlemen, I have the North Pole aboard. You are welcome to it."

It was shortly after sunrise. His visitors had just arrived aboard the Tyrian, a government cable ship, which had been sent by the Dominion of Canada to bring back the famous explorer as its guest. Captain Alexander A. Dickson of the Tyrian only a moment before had conveyed to the commander this felicitous message.

Peary, gaunt from the rigors of the Arctic, his broad shoulders towering above all who surrounded him, was visibly impressed by the scene. Turning to Captain Dickson he grasped his hand hard and drawing the lips of his stern face still more tensely, he said:

"You flatter me, indeed. I appreciate your invitation, but I must stick to my good ship. I must go back home on its deck. It has been a good friend, which I would not think it right to leave. Without it I should never have been able to have searched for the pole."

The spectacle will become history. Here was a man who said he had returned from the frozen wilderness of the North as the only discoverer of the northern spindle of the earth. The struggles of twenty-three years in quest of this goal had plainly stamped their marks upon his features. They had obliterated, as far as the eye could see, all the softness and gentleness of human nature. Whenever a smile floated over his face it left it still more tense. At the end of almost every hour he would clinch his teeth and draw his lips taut.

His costume well befitted the occasion. His legs were encased in a huge pair of rubber boots which reached to his hips. His trousers were of the toughest weave of blue jeans. A loose-fitting blue flannel shirt did not hide his powerful chest, which had the width of a professional athlete. An old gray

overcoat fluttered from his shoulders, and his matted sandy hair was surmounted by an ancient, battered black felt hat.

With an energy most characteristic he shook hands with the whole group around him.

"I'll get your name later," he said. Then some one asked: "Commander, we want to know all about that pole of yours."

With a quick sweep of the eyes Peary pointed to the greasy deck. The blubber of seventy walruses, which had been slaughtered and brought aboard the Roosevelt, there to be sliced into halves and quarters for distribution among his faithful Eskimo followers, had left the ship slimy and noisome.

Although the vessel had been lying in Battle Harbor for more than a week for the purpose of being cleaned and overhauled, little work seemed to have been done. On every side, and even hanging over him from the shrouds, were trophies of Arctic hunts, skins of bears, seals, foxes, wolves, antlers and horns of musk oxen, deer, walruses and other creatures most strange to a Southern eye, all drying in the sun.

"This is no place for an interview, gentlemen," said the commander. "I think it would be much more convenient if we were to adjourn to the attic of that fish house yonder. It is a rough place and you will have to associate with nets, fish barrels and salt boxes; but I think we will be comfortable. And in order that you shall not be disappointed when we get to the inquisition chamber over there, I will state now that I shall answer only those questions which at this time I regard appropriate."

This precautionary remark was generally interpreted as meaning that Peary was not going to discuss Dr. Cook's prior elaim of the discovery of the North Pole any more than he could help.

With an abrupt bow, Peary suddenly retired to his little cabin, which opens upon the rear deck. It looked to be a very cozy place, where, despite the assault of Arctic climes, one might think he was in some genial Southern latitude. The walls were covered with books, scientific and historical, with here and there such a book of fiction as the "Last Days of Pompeii." Here also were to be seen the choicest prizes of Arctic exploration—queer birds, fantastic teeth and bones and bits of strange-looking rock.

When Peary had retired the chief object of attention was Henson, who helped him "nail the Stars and Stripes" to the pole. When first asked about his trip to the top of the earth Henson shrugged his soulders with the reply:

"I just got there, that's all."

Captain Robert A. Bartlett, who not only guided the Roosevelt into the farthermost waters of the North at Cape Sheridan, but also accompanied Peary farther than any other white man in his party, was likewise silent when first approached.

"I'd rather go to the pole," said he, "than have to answer questions about it."

Promptly at the appointed hour Commander Peary swung over the side of the low-decked Roosevelt into a fisherman's boat. It took only a few strokes to bring him to land. Thither Captain Dickson of the Tyrian and some of his fellow officers had already gone.

With rapid strides the pole hunter climbed up the narrow stairway of the fish-house. Then followed a small army of newspaper men.

With a single bound Peary leaped upon a heap of fish nets. There he took his seat and looked down almost defiantly upon his inquisitors. Everybody was so impressed by the occasion that no one broke the silence for several moments. Here in this obscure Labrador village a court was about to be held, at which all the world was listening. But almost at the very beginning the stern-faced witness rebelled. The questioning almost immediately began to irritate him.

He was asked, not about himself, but about Dr. Frederick Cook, his rival, who says he reached the earth's topmost gable a year before Peary.

At first, however, Peary tried to conceal his resentment. It was evident that he ached to overwhelm Cook's claim with a flood of argument but that he had firmly resolved to contain himself.

However, Commander Peary was the first to break the silence.

"Well, gentlemen, begin," he said.

"Did you find any signs of Cook?" was the first question.

"None whatever," answered Peary emphatically. "Yet it would be possible for an explorer to have gone to the pole by some other route a year previously and left a track which I would not have crossed. Such a thing is possible, but not probable."

"Could a man stay on the mainland and fake observations of a polar trip that might fool some scientists?" asked a New York man dressed in a straw hat and Eskimo vest.

"The thing could be done," replied the pole finder; "not only I, but also Sir George Nares and Admiral Melville believe it possible."

"But do you think that Cook really got to the pole?" insisted the strangely garbed questioner.

"All I shall say concerning Mr. Cook," said Mr. Peary, with some show of irritation, "is contained in two telegrams." The telegrams were as follows:

"Cook was not at the North Pole on April 21, 1908, or at any other time. This statement is made advisedly."

Following an abrupt pause, a gentle youth on a box of salt at the further end of the loft put this question:

"How cold was it at the pole?"

Instantly the tense face of the explorer relaxed.

"Not so cold as you sometimes get it in the Adirondacks," he answered. "The maximum temperature was 11 below and the minimum 32 degrees below, Fahrenheit. My last preliminary observations before reaching the pole were at 89.57 with a sextant and artificial horizon. Of my observations at the pole I shall say more later."

When a remark was made concerning the rapidity of his return march he replied:

"Our speed was not unusual when you consider the favorable weather with which we were blessed. We were not vexed with cross winds. Instead of blowing east or west and filling up the trail, so as to impede the retreat they came almost continually from the north. They packed the ice still harder against the land on the southern shores of the Polar Sea and held it firm. We were not carried away from our course by the eastward drift as on previous expeditions.

"Our new type of sledges also helped greatly. One which reached the pole was named the Morris K. Jesup. They cut down the strain on the dogs one-third and on the men nearly one-half. Without them I should never have reached the pole."

"Do you ride on the sledges?" asked somebody.

"Ride?" inquired the bronze-faced Peary, astonished. "Sir, in Arctic expeditions a man is lucky if he is able to walk without pushing his sledge. Usually he may grip the rear and thrust it ahead. It is like guiding a breaking plow drawn by oxen. You must also expect at any moment that the sledge may strike some pressure ridge that will wrench you off your feet.

"My return trip was twice as rapid as the advance, for the further reason that our equipment grew lighter and lighter. In going north we had used up two-thirds of the rations. The cracking of the ice and the formation of open leads or lanes of water were not as formidable as on previous expeditions. This good luck was also the result of favorable winds."

ROBERT E. PEARY,

Who nailed the stars and stripes to the North Pole April 6, 1909. On April 26, 1906, on his third Polar attempt, Peary reached latitude 87 degrees 6 minutes, or within 200 miles of the North Pole.

DR. COOK LANDING AT COPENHAGEN.
Dr. Cook, who reported from Lerwick, on September 2, that he had reached the North Pole (on April 21, 1908), reached Copenhagen in the Greenland Government Steamer Hans Egede, on Saturday morning, and was met by a vast crowd, headed by the Crown Prince of Denmark. This picture shows him bareheaded.

Mention was made of the fate of the Roosevelt and its commander said:

"What will become of the Roosevelt, now that its original mission has been performed, will be decided by the Peary Arctic Club, to which it belongs. I can only make suggestions. The ship might be used as a government revenue cutter in Behring Sea or as a government ice breaker on the New England coast."

"Might it not be used as a floating memorial?" asked some one.

"Italy has thus memoralized the Stella Polar and Norway the Fram," was the non-committal reply. "Nansen first used the Fram, later Sverdrup and Amundsen now thinks of fitting her out for another expedition. Then again the Roosevelt might go in quest of the South Pole. No, I shall never try to find the South Pole, or take part personally in other expeditions although I will gladly help such work in other ways."

Then the question was asked which one hears from the mouths of pessimists of the "What's the use" variety.

"What real good will result from finding the pole?"

"The greatest benefit to science," replied the commander, "will come from my soundings of the Arctic Ocean, which now define the course of its bottom from Cape Columbia to the pole. They therefore supplement the findings of Nansen and Admiral Cagni on the other side. Then there are two big things effected by the attainment of the pole which do not lie in the scientific field. One is man's final conquest of the earth, for every inch of unattainable land is a reproach to civilization.

"The other practical result from the discovery of the North Pole will be the opening up of that region to the people of lower latitudes. Within five or at least ten years summer travel to the habitat of the Eskimos will be as common as it now is to the Labrador shore."

CHAPTER XI.

THE BATTLE OF THE HEROES.

The battle of brawn was destined to be followed by a battle of brains.

Such an achievement as the pole discovery is always likely to bring a host of unpleasant developments in its wake; and it is sometimes followed by a quarrel. Damage suits and fights with deadly weapons have attended the great discoveries of riches. The heroism of American sailors in the war with Spain had, unfortunately to be followed by the Sampson-Schley controversy. And in the case of the North Pole discovery a quarrel was even more inevitable than in similar circumstances in the past. It was not in human nature that two men should stand at once on the pinnacle of fame.

This chapter does not aim to plead the cause of either Cook or Peary. It is included simply because the controversy, and the developments thereof, are vital parts of the history of the great polar discovery.

The trouble started promptly on the arrival of Peary at Indian Harbor, Labrador, the first port he touched on his return journey. One may readily understand the bitter, the almost unbearable disappointment of Commander Peary when there was brought to him, as almost the first news from his native land, the announcement that Cook had outstripped him by a year. It meant that he had fulfilled an ambition that had inspired him from boyhood, only to find himself outdistanced in the final stretch. Under this torturing sensation Peary rushed two telegrams to America before he had seen or talked with a relative or an adviser. The first telegram was to his wife, the other to the Associated Press. Said the former message:

"Delayed by gale. Don't worry about Cook. Eskimos say Cook never left sight of land. Tribe confirms. BERT."

The dispatch to the Associated Press read:

"Indian Harbor, Labrador (By Wireless Via Cape Ray, N. F.), Sept. 7. —To Associated Press, New York: I have nailed the stars and stripes to the North Pole. This is authoritative and correct.

"Cook's story should not be taken too seriously. The two Eskimos who

accompanied him say he went no distance north, and not out of sight of land. Other members of the tribe corroborate their story. ROBERT E. PEARY."

Later he sent the following to New York:

"Do not trouble about Cook's story or attempt to explain any discrepancies in his statements. The affair will settle itself.

"He has not been at the pole on April 21, 1908, or at any other time. He has simply handed the public a gold brick.

"These statements are made advisedly, and I have proof of them. When he makes a full statement of his journey over his signature to some geographical society or other reputable body, if that statement contains the claim that he has reached the pole, I shall be in a position to furnish material that may prove distinctly interesting reading for the public.

"ROBERT E. PEARY."

It was like a bombshell—this unequivocal charge that Cook had falsified. But the least excited man in the world was Dr. Cook, the physician, who at that moment was being cheered in Denmark as the conquerer of the Arctic.

Dr. Cook was at a banquet in his honor in Copenhagen when Commander Peary's dispatch to The Associated Press was read to him. Dr. Cook lost little time in sending to New York a number of cablegrams, in all of which he expressed his gratification that Peary had also reached the pole and announced his belief that Peary's observations would amply verify his own claim that he had been to the furthermost point of the compass. Dr. Cook was particularly joyous that, with Commander Peary's success, which he did not in the least doubt, all the honor for the achievement was surely American. In one cablegram to New York Dr. Cook declared that the science of exploration would benefit immeasurably through the fact that Peary reached the pole by a route different from his, thus covering another large unknown space and, with the Cook observations, clearing a mystery which had perplexed geographers for many centuries.

To a newspaper correspondent Dr. Cook said: "By going much farther to the east than I did Commander Peary has cut out of the unknown an enormous space which, of course, will be vastly useful and scientifically interesting."

Then he added, with evident sincerity: "I am the first to shout 'Hurrah for Peary!' Since he has telegraphed an announcement that he has reached the pole then it is true, and I congratulate him."

Asked whether Commander Peary was likely to have found traces of his

progress over the polar seas, Dr. Cook replied: "No he scarcely would have come across my tracks."

Dr. Cook then said: "I understand that a rumor is current about my having taken some of Peary's provisions at Etah; this is founded on Eskimo gossip and misunderstanding. I desire no controversy. I simply say in reply to any such assertion, 'No.' Commander Peary is a friend of mine."

Cook's hearty congratulations did not check Peary's charges. On September 14 he was interviewed under picturesque circumstances on the deck of the Roosevelt off Battle Harbor, Labrador. On this occasion he said: "I am the only white man who has ever reached the North Pole and I am prepared to prove it."

The Associated Press tug Douglas Thomas, after a stormy passage up the west coast of Newfoundland and through the Strait of Belle Isle from Sydney, arrived at the lonely whaling and mission settlement at noon September 14. A squall of rain was sweeping over the harbor as the Thomas steamed in, but with glasses it was possible to make out the mast and hull of the Arctic steamer Roosevelt moored in the inner bay. The Thomas broke out the "North Pole" flag, the same emblem that was flying from the mizzenmast of the Roosevelt, and signaled "The Associated Press congratulates you."

The Roosevelt then signaled the thanks of Commander Peary for this message, whereupon the Thomas gave three loud blasts of her whistle. In response there came from the Roosevelt a chorus of barking and yelping from the Eskimo dogs on board, that echoed back from the surrounding hills.

The Thomas drew near to the Roosevelt. The steamer looked little the worse for her second trip to the polar regions. Along the rail were gathered the members of her famous crew, among them the redoubtable Capt. Robert Bartlett, who was at once recognized.

Capt. Bartlett invited the Thomas to tie alongside and the correspondent to come on board without delay. The correspondent clambered over the weather-beaten bulwarks and proceeded direct to the cabin to meet the man who has stood upon the apex of the world.

Peary said: "I have already stated publicly that Cook has not been to the pole. This I reaffirm, and I will stand by it, but I decline to discuss the details of the matter. These will come out later.

"I have said that Dr. Cook's statement that he reached the pole should not be taken seriously, and that I 'have him nailed' by concrete proofs to support my statement."

More and more bitterly raged the controversy, until the two explorers stood in the position of calling each other thieves as well as liars. Each charged the other with making use of supplies intended for the use of one man only. This arose from the fact that both made Etah, Greenland, a base of operations; and their tracks crossed a number of times. One assertion made by Cook's friends was that Peary opened Cook's letters; but this was indignantly denied by Peary and not proven by Cook.

One interesting story grew out of the matter of supplies. In this connection a Danish physician wrote a letter which made sensational reading for those watching the argument. This letter said:

"Now that Dr. Cook has gone (from Greenland), I am no longer under any obligation to keep silent, and will exercise my right to publish the story about the house in Annatok, a story which Dr. Cook himself had too much delicacy to relate to the world. I write it according to my memory, in the same manner that Cook in Egedesminde told it to me, and I am fully convinced that in no details are my recollections wrong.

"Dr. Cook had built his house for stores in Annatok, north of Etah, and it was this depot which he started to reach in February, 1909, crossing Smith Sound. It was a pretty large house, the walls being built of heavily filled provision boxes, so that Dr. Cook knew when this important point was reached everything was safe. He had, before the start, arranged with a wealthy young friend named Harry Whitney that he have the right to use the house while hunting musk oxen for sport in the winter of 1908-'09.

"When Dr. Cook and his two Eskimos, exhausted and half starved, came within a shot's distance of the house in Annatok young Whitney came out to bid him welcome, but inside the house was a stranger, a giant Newfoundland boatswain, on watch. This man had been placed in Dr. Cook's house by Peary when the latter passed Etah with his ship bound north.

"Peary had given the boatswain a written order, which commenced with the following words: 'This house belongs to Dr. Frederick A. Cook, but Dr. Cook is long ago dead and there is no use to search after him. Therefore I, Commander Robert E. Peary, install my boatswain in this deserted house.'

"This paper the boatswain, who could neither read nor write, exhibited to Dr. Cook and the latter took a copy of this wonderful document.

"Dr. Cook gave me a lively account of how the young millionaire, Mr. Whitney, during the whole winter was treated like a dog by the giant boat-

swain, and how he had calmly witnessed the sailor bartering Dr. Cook's provisions for fox and bear skins for himself.

"Dr. Cook also had to put a good face on the unpleasant situation. He had to beg to get into his own house, and had to make a compromise with the boatswain with strong fists.

"Dr. Cook made a present of the house with all its contents to his two faithful Eskimos, with the provision that Whitney was to have the use of the house as long as his hunting trip lasted, but he was compelled to let the Newfoundland boatswain continue his watch. The boatswain, however, received strict orders not to exchange any more of the provisions or guns."

The other side of this argument was presented by Herbert L. Bridgman, who said:

"A false light has been put on the account of taking Dr. Cook's stores. I have received documents from Commander Peary which prove that his taking those abandoned stores was right.

"Rudolph Francke of the Cook expedition came down, Peary took care of him. Peary found at various stations letters from Francke, the most imploring letters filled with wild appeals for aid.

"Commander Peary took Francke with him to his doctor at Etah. The doctor himself has written me to that effect. He found Francke suffering from scurvy. He had him cared for.

"Then Peary pushed along to the points where he found Cook's stores that he established the year before. He guarded these from bears and gave aid to members of the party. He even offered to send scouts to endeavor to locate Dr. Cook. Nothing more could have been done by mortal man than Peary did.

"When he found abandoned stores he took them. As an officer of the United States navy he had a right to these. It is quite the common practice among explorers to take all abandoned stores. By his action Peary simply followed custom. All his letters, written long before this controversy arose, prove conclusively that Peary was guilty of no offense against Dr. Cook."

Still another, from the Peary camp, was that the instruments Dr. Cook had with him were borrowed from Commander Peary for another purpose. This man, who has been among the leaders of those who have insisted that Dr. Cook must submit incontrovertible proof, declares the Brooklyn physician borrowed the astronomical instruments for the purpose of making observations "while on a fishing and hunting trip along the Labrador coast."

Members of the Peary club also declared the Eskimos used by Dr. Cook

belonged to Commander Peary and that he had no permission to seek their assistance.

Cook's statement on this point was this:

"I will not enter into any controversy over the subject with Commander Peary further than to say that if he says I have taken his Eskimos my reply is that Eskimos are nomads. They are owned by nobody, and are not the private property of either Commander Peary or myself. The Eskimos engaged by me were paid ten times what they demanded to accompany me.

"As to the story that Commander Peary says I took provisions stored by him, my reply is that Peary took my provisions, obtaining them from the custodian on the plea that I had been so long absent that he was to organize relief stations for me in case I should be alive. Of this I have documentary proof."

The above gives a fair idea of the counter-charges brought by the rival explorers and their friends. The more vital accusations, affecting the veracity of the two men, remained to be settled before a "jury of their peers,"—the men of science, doubters by profession, who were to determine what the world gained in knowledge by the two dashes northward. Of this no account can be given here. The controversy was evidently one of those never to be settled by a verdict even of so formidable a jury as that described. The true verdict will be that of posterity. And it is not very venturesome to suggest that the plain citizen of years to come will accord equal honor to the men who risked all that they might stand on the earth's axis.

Admiral Schley, made just by the fury of his experience in the Sampson matter, said when he heard of Peary's triumph:

"I am as fully delighted with the news that Commander Peary has been successful as I was when word was received from Dr. Cook. He will share the great honors for although Dr. Cook was the first to be successful in the quest, Peary comes in for equal honors as his feat is no less wonderful than that of the doctor.

"There is no question in my mind as to the veracity of Peary's statement as I know him to be a man of the highest integrity and he probably has ample records and proofs to back up his contentions that he has reached the point of highest latitude. The announcement that he has succeeded will do much to dispel the skepticism manifest in certain quarters as to the ability of any human being to penetrate to the pole.

"This country has much to be proud of because of the fact that two of

its representatives have brought such a great honor home. It is a wonderful triumph for American determination, grit, and physical endurance and skill.

"It would be just as impossible for Peary to forge records and data as it would for Dr. Cook. There should be no skepticism because the men report their success with such a short interval between. Each was determined to do or die in the last expedition and Peary deserves as much credit for succeeding as does Cook.

"All hail to the gallant commander, again I say. I rejoice over his success and that it is to the credit of this nation that two of our intrepid explorers have been the only ones to reach the long sought for goal."

WHERE PEARY CORROBORATES COOK.

The question whether Cook or Peary discovered the North Pole may never be settled. It bids fair to become one of history's conundrums and to remain a matter of one man's word against another's.

Peary has now told the detailed story of his dash to the pole. In reading it one can not escape the surprising fact that it tends to corroborate Cook's narrative in several particulars.

The Arctic sharps and wiseacres doubted Cook when he said he covered fifteen miles a day. They doubted him when he spoke of "purple snows" and "milling ice." They doubted him because he took no soundings of the sub-polar sea. They doubted him because he said he had pressed toward the pole in winter. They doubted him because there was no white man with him—only two Eskimos who knew nothing of latitude and longtitude. They doubted him because he brought out only the records of his own observations and reckonings to prove his word.

So much for Cook. Now what of Peary?

Peary was the only white man of his party to reach the pole. He was accompanied by four Eskimos and Matt Henson, his negro body servant. He alone made observations and reckonings at the pole. None of the men with him knew anything about determining latitude or longtitude. They could not have known they had reached the pole unless Peary had told them. Like Cook, Peary brought back practically his own word alone to support his claim that he had attained the earth's apex.

When we come to rate travel, Cook's fifteen miles a day seems modest in comparison with the distance Peary covered. When near the eighty-eighth parallel Peary decided to attempt to reach the pole in five days' marches.

From the Philadelphia Record

According to his story, he made twenty-five miles on the first day, twenty on the second, twenty on the third, twenty-five on the fourth and forty—yes forty!—on the fifth. On these last five days he traveled at an average rate of twenty-six miles a day.

And on the return trip from the pole to Cape Columbia he made even better time. He tried, he says, on his return trip to make double the distance

he covered on his dash to the pole. "As a matter of fact," he declares, "we nearly did this, covering regularly on our return journey five outward marches in three return marches."

It is easy to figure out the average rate of speed he made on his return trip. He started back from the pole, he says, on April 7 and reached Cape Columbia on April 23, covering the 450 miles in sixteen days. This is a daily rate of 28.12 miles a day.

Will the Arctic experts who declared it impossible for Cook to make fifteen miles a day charge Peary with falsehood when he says he made forty?

In the matter of soundings what did Peary do? Five miles from the pole, he says, he made a hole in some new ice and took soundings. All his wire, 1,500 fathoms, he says, was sent down without finding bottom. In pulling it up the wire parted and lead and wire were lost. Peary threw the rest of his sounding apparatus away.

We learn from Peary's story that he started for the pole earlier in the season than Cook. He started in February, Cook in March. He reached the pole fifteen days earlier in the season—Cook fixes the date as April 21 and Peary as April 6. This would seem to dispel all doubt about Cook's ability to travel in what is winter weather in the Arctic.

Cook's references to "milling ice" and "purple snows" would seem unimportant, except that the doubting Thomases have seized upon it. Peary says that as he approached the pole he found the ice in motion that was both visible and audible. And, though he says nothing of "purple snows," he describes the surface of the old floes as being "dotted with the sapphire ice of the previous summer's lakes."

So if we doubt Cook, why should we not doubt Peary? And if we believe Peary, why should we not believe Cook? Peary's is the unemotional, detailed, matter-of-fact story of a scientist. Cook's is the breathless and exultant tale of a triumphant adventurer.

If both Peary and Cook reached the pole—and there is, on the face of things, no more reason to doubt one than to doubt the other—their expeditions must remain distinct in purpose and character. The one was a scientific achievement, the other a heroic adventure.

CHAPTER XII.

PEARY'S FIRST VOYAGES.

The determination to probe the mysteries of the far north which throbbed in Peary's blood found full vent when, in 1891, he set out on a journey which was to comprehend an overland journey to the north coast of Greenland. Owing to the disasters that had overtaken several government expeditions, Peary was unable to secure support for his scheme from the navy department. This support, however, he secured from the Philadelphia Academy of Natural Sciences. He had already gained experience by a short journey in 1886.

The trip of 1891 was momentous in several respects; and in one way it was unique: a woman was in the party. This was Mrs. Peary, the same woman who cried out her delight eighteen years later over her husband's attainment of his life ambition.

The accounts of the journey which follow are taken from G. Firth Scott's book, "From Franklin to Nansen." Describing the start of the expedition, the writer says:

"The party left New York on June 6, 1891, on board the steamer Kite, for Whale Sound, on the northwest coast of Greenland. The voyage was satisfactory in every way until June 24, when an unfortunate accident befell the leader.

"The Kite had encountered some ice which was heavy enough to check her progress, and, to get through it, the captain had to ram his ship. This necessitated a constant change from going ahead to going astern, and, as there was a good deal of loose ice floating about, the rudder frequently came into collision with it when the vessel was backing. Lieutenant Peary, who was on deck during one of these maneuvers, went over to the wheelhouse to see how the rudder was bearing the strain. As he stood behind the wheelhouse, the rudder struck a heavy piece of ice and was forcibly jerked over, the tiller, as it swung, catching Lieutenant Peary by the leg and pinning him against the wall of the house. There was no escape from the position, and the pressure of the tiller gradually increased until the bone of the leg snapped.

"The doctor, who formed one of the party, immediately set the limb; but the sufferer refused to return home, and when, a few days later, the Kite reached McCormick Bay (near latitude 78 degrees) he was carried ashore strapped to a plank.

"The material for a comfortably-sized house was part of the outfit of the expedition, and this was in course of erection the day that Lieutenant Peary was landed. For the accommodation of himself and wife, a tent was put up behind the half-completed house, and, as a high wind arose, the remainder of the party returned on board the Kite.

"As the hours passed away the wind became stronger. The tent swayed to and fro, and Mrs. Peary, as she sat beside her invalid and sleeping husband, realized what it was to be lonely and helpless. She and her husband were the only people on shore for miles; her husband was unable to move, and she was without even a revolver with which to defend herself. What, she asked herself, would be the result if a bear came into the tent? She could not make the people on board the Kite hear, and she was without a weapon. Throughout the stay in the North, Mrs. Peary proved herself not only to be a woman of strong nerve and self-reliance, but also an excellent shot with either gun, rifle or revolver. It was, however, as much as she could stand when her anxious ears caught the sound of heavy breathing outside the tent.

"For a time she sat still, fearing to disturb her husband, until the continuance of the sound compelled her to look out. A school of white whales were playing close inshore, and it was the noise of their blowing, softened by the wind, which had so disturbed her. But so self-possessed was she over it that her husband did not know till long afterwards the anxiety she had experienced during the first night she spent on the Greenland shore.

"The following day rapid progress was made with the house, and some of the party stayed on shore for the night, so that there was always someone within call of the invalid's tent until the house was completed and he was removed into it. By that time the Kite had started home again, and the little party of seven were left to make all their arrangements for the winter.

"They had determined to rely entirely upon their own exertions for the supply of meat for the winter and also to obtain their fur clothing on the spot, killing the animals necessary for the material and engaging some of the local Eskimo to make up the suits. Deer would give both meat and fur, and as there was every prospect of the neighborhood affording them in plenty, as

soon as the house was up and the stores packed, the majority started away in search of game.

"The spot where they were landed, and where they had erected their camp, was on a verdure-covered slope lying between the sea and the high range of bluff hills which towered about 1,000 feet over them. In the spring the ground was covered with grass and flowers; the bay in front was full of seal, walrus, whales and other marine inhabitants, and along the hills behind experience showed that game was present in abundance. The Etah Eskimo, the most northerly people in existence, lived their quaint, out-of-the-world lives along the shore of the bay and neighboring inlets, and, as soon as the camp was settled, they were kept busily employed in the making of fur garments, proving themselves docile and peaceful. It was often difficult for the members of the expedition to realize that the site of their camp, with the abundance of food to be had, was only from fifty to eighty miles from the spots where the castaways of the Polaris suffered so acutely and the members of the Greely expedition slowly starved, many of them to death. For more than a year the little party of seven lived in good health, without a suggestion of scurvy making its appearance and with only one fatality, which, moreover, was accidental."

The Pearys gave much time on this expedition to study of the life of the Eskimos, whose traits will be considered later on in this volume. Some of the interesting things they learned were as follows:

"Mrs. Peary, as the first white woman the Eskimos had ever seen, was a particular object of attention. As their custom is for men and women to dress very much alike, they could not quite understand Mrs. Peary's costume, and when the first arrivals saw her and Lieutenant Peary together, they looked from one to the other, and ultimately had to ask which of the two was the white woman.

"The tribe did not number two hundred in all; they held no communication with the Eskimo farther south, and, except for the occasional visit of a sealer or a whaler, knew nothing of the outer world. None had ever seen a tree growing, nor had they ever penetrated over the ridge of land which lay back from the coast, and over which glimpses were caught of the great ice-cap. The latter, they said, was where the Eskimo went when they died, and if any man attempted to go so far the spirits would get hold of him and keep him there. They consequently warned Lieutenant Peary against venturing. There was no seal up there; no bear; no deer; only ice and snow and spirits, so what reason had a man for going?

"Their belongings were extremely simple. A kayak, a sledge, one or two dogs, a tent made of walrus hide or sealskin, some weapons, and a stone lamp, comprised, with the clothes they wore, their property. Wood was the most valuable article they knew, because they could use it for so many purposes, and had so little of it. The possession of knives and needles was greatly desired, but scissors did not appeal to them, since what they could not cut with a knife they could bite with their close even teeth. Money had neither a suggestion nor a use with them; trade, if carried out at all, being merely the bartering of one article for another.

"The animals they liked best were dogs and seals; the former being their beast of burden and constant companion, the latter the provider of food, raiment, covering and light. Every seal killed belonged to the man who killed it, but the rules of the tribe required that all larger animals should be shared among the members in the neighborhood; the skin of a bear, however, remaining in the possession of the man who secured it. But so unsophisticated and easy-going are the contented little people that individual property scarcely exists with them; every one is ready and willing to share what he has with another if need be. The articles borrowed, however, are always returned, or made good if broken or lost. No one can either read or write; the boys are taught how to hunt, how to manage the kayak and sledge, and how to make and use the weapons of the chase, while the girls are taught how to sew the fur garments, and keep the stone lamp burning with blubber and moss, so as to prepare the drinking water and the frizzled seal flesh they eat. For the rest, their chief desire is to live as happily as they can, and this, according to those who have been amongst them, they manage to do merrily and well.

"During the visits paid to the different encampments by Lieutenant Peary and his wife, about a score of dogs were obtained, a number which would be sufficient to carry out the work of the ensuing spring. They were usually obtained in exchange for needles and knives, but the purpose for which they were needed always formed a subject of wonder to the unambitious 'huskies.' "

The winter in Greenland passed without extraordinary incident. By the middle of April preparations were made for pushing on to a point where further knowledge could be gleaned. It was Lieutenant Peary's plan to journey with one sledge—which was followed by a supporting party—into the unknown interior of Greenland, and over a great ice-cap that makes the center of the country a huge mountain. The start was made April 30. Each sledge had a team of ten dogs and was laden with food and scientific instru-

ments. Mrs. Peary, of course, remained in her temporary home. Says Mr. Scott in describing this trip:

"The two parties kept together until the costal range was surmounted, and the beginning of the ice-cap was reached. Here the sledge which was to do the great journey was laden with a full load, and the two explorers started forward, Lieutenant Peary leading the way with a staff to which was attached a silk banner—the Stars and Stripes—worked by Mrs. Peary.

"The first of the ice-cap was a stretch of some fifteen miles of ice, formed into enormous dome-shaped masses. They toiled up one side but traveled easily down the other, and so on, up and down, until they had attained an altitude of nearly 9,000 feet above the sea level, when they found that they were on a vast expanse of snow. The white unbroken surface stretched away as far as the eye could reach, unbroken by a ridge or rise, everywhere flat, white and immense. This was the great ice-cap, the frozen covering of the interior of Greenland, the unknown region where no man had yet set foot.

"But it was a mistake to term it an ice-cap. They found it to be rather a desert, a Sahara with dry drifting snow instead of the dry burning sand. And, like Sahara, it had its days of storm, when the snow whirled in clouds just as the sand rises before the scorching blast of the simoom. Very wonderful was the first experience of this Greenland dust-storm. The sky overhead was filled with dull grey clouds, heavy and opaque, and the gloom spread all around, so that whichever way one looked there was the same impenetrable veil of grey gloomy haze. The snow lost its dazzling whiteness and took instead the tint of the gloom of the surrounding atmosphere. Then the wind came, at first in fitful gusts but later growing into a steady blow, the opening squalls lifting the dry surface snow and whirling it up in the air. The steady breeze caught it and carried it along in a constantly moving stream some two feet deep, and it was then that the effect of the storm was most pronounced. The drifting particles of snow made a curious rustling noise as they moved and as they whirled around the travelers' legs the feet were hidden beneath the dense moving veil. As a result, it was as though one were walking on nothing and going nowhere, for the grey gloom all around made one unconscious of either direction or space, and the moving snow prevented one seeing the feet or realizing that there was anything solid under them.

"The steady hum of the drifting snow, together with its movement, made the brain dizzy, and the two explorers generally found it necessary to form a camp when such a storm came on, the snow soon piling up against their shelter

tent and effectually protecting them from the wind. Then, when the breeze had died away and the snow ceased moving, they were able to dig out their sledge and proceed.

"A distinct contrast to these stormy days was given by the period of clear sunshine. Then the sky, innocent of a cloud, was a wonderful blue vault overhead, while the snow-covered plateau stretched away on all sides until it was lost in the distance of the horizon. The wonderfully clear air enabled the explorers to see a great distance ahead. At the end of the second day's march after reaching this great snow desert, they found that the surface was gradually sloping north and south. They were on the dividing ridge and, as they passed over onto the downward slope, their progress was naturally at a more rapid rate. A storm, such as has been described, accompanied by falling snow, overtook them, and for three days they had to stay in their shelter. When at length the weather moderated and they were able to get out again they discovered, before resuming the journey, that the dogs meanwhile had eaten six pounds of cranberry jam and the foot off one of the sleeping-bags—a fairly good example of a dog's appetite during a snow-storm.

"On May 31 in magnificently clear weather they looked out upon a scene on which no white man had ever yet gazed. In his description of the journey the leader wrote: 'We looked down into the basin of the Petermann Glacier, the greatest amphitheatre of snow and rugged ice that human eye has ever seen.' Away beyond it, a range of black mountains towered in dome-shaped hills, and they made their camp with the expectation of being able to see more of the distant range at the end of another march. But by the time they were able to resume their march a thick fog had come into the air, and for three days they could only see the snow at their feet. They directed their course entirely by compass, but as they were unable to see long distances ahead, they were unprepared for a change in the surface. Before they could avoid it, they found themselves amongst rough ice and open crevices. They were getting onto the Sherard Osborne Glacier, and, in the misty weather they were experiencing, it was difficult to get back onto the smooth ice again. Over a fortnight was spent in getting beyond this rough ground, and at length, on the weather clearing, they found that straight ahead of them a range of hills showed along the horizon above the ice-cap. The appearance of the hills directly in their path decided them to turn their course from due east to southeast, and they were soon able to make out the line of a deep channel running from the northeast to the southwest.

PEARY'S CREW: THE NEWFOUNDLANDERS WHO MANNED THE ROOSEVELT.
Peary has congratulated Newfoundland on its share in the discovery of the Pole, as Captain Bartlett and the crew of the Roosevelt—nineteen in all—hail from Newfoundland.

PEARY'S ESKIMOS: NATIVES WHO ACCOMPANIED PEARY'S EXPEDITION.
These are the hardy natives of Etah, to whose assistance the explorer attributes much of his success.

DR. COOK AT COPENHAGEN.
The portraits show Dr. Cook as he appeared on the Hans Egede and after he had been in the hands of the barbers and tailors of Copenhagen.

COMMANDER PEARY AT HOME AND IN THE ARCTIC.
Commander Peary was fifty-three years old on May 6. He looks a giant when clad in his heavy Arctic furs.

"On July 1, after fifty-seven days of travel, they came to the limits of the ice-cap and stood, silent and amazed, looking down from the summit of the snow desert across a wide open plain covered with vegetation, with here and there a snowdrift showing white, and with herds of musk oxen contentedly grazing over it. Such a discovery was absolutely so unexpected that at first they could scarcely believe their eyes. There was no sign of any human habitation on the land, and, for all that could be learned to the contrary, they were the first human beings who had ever trod upon that plain, on which the yellow Arctic poppies were waving in bloom and over which the drone of the humble bee sounded, though for hundreds of miles around it the accumulated snow of centuries lay frozen into the great mysterious snow-cap and its glaciers.

"Having proved that they really were not dreaming, they shot a musk ox, which they used for their own and their dogs' refreshment. Then they stacked their stores and set out with reduced loads across the plain. They walked for four days, exploring, surveying, and examining; and on the fourth of July, the anniversary of the Declaration of Indepndence by the United States, they stood on a summit of a magnificent range of cliffs, 3,500 feet high, and overlooking a large bay, which in honour of the date, they named Independence Bay.

"The latitude was nearly 82 degrees N., and Lieutenant Peary, writing of the discovery, says: 'It was almost impossible for us to believe that we were standing on the northern shore of Greenland as we gazed from the summit of this precipitous cliff with the most brilliant sunshine all about us, with yellow poppies growing between the rocks around our feet and a herd of musk oxen in the valley behind us. In that valley we had also found the dandelion in bloom and had heard the heavy drone and seen the bullet-like flight of the humble bee.' "

For a week the party of investigators remained in this isolated region, 6,000 miles from their friends, and then journeyed back. Over the glistening ice surface they made fast time, and often reached an average of thirty miles a day. Sometimes, when the wind was good, sails were put up on the sledges, and they flew along, like boys with their sleds on a pond. On August 8 the party arrived back at the place where Mrs. Peary had been left, and a short time later the Kite sailed for America, reaching New York September 20, 1892.

From a scientific standpoint the results of this expedition were:

The discovery and naming of Independence Bay, at 61 degrees north latitude.

Determination of the insularity of Greenland, for which Peary received medals from a number of geographical societies.

Discovery of Melville Land and Heilprin Land.

CHAPTER XIII.

PEARY'S LATER VOYAGES.

The appetite of the polar adventurer was now well whetted for the pursuit of a northern goal; his spirit and his physique had both become sturdy; and he was ready to accomplish greater work.

Such a triumph as "farthest north," was, however, to be delayed for many years. Although Peary went north again in 1893, he did not attempt to reach the pole, yet his investigations were of moment to science. He had read of a great "iron mountain," which was first heard of through Ross, an English explorer, in 1818. Now, more than seventy years later, the American explorer determined to find that mountain and determine its nature. He did find it, and proved that it was a marvelous rock indeed,—a meteorite, the largest known, and weighing more than ninety tons.

Experiences similar to those described in the last chapter characterized this trip, as Mrs. Peary was her husband's companion on this trip also; and the voyage was distinguished by another event, also. A daughter was born to the Pearys while they were in the Arctic region. Though sixteen years old, she is still known as "the snow baby."

In 1896 and 1897 Peary made short trips to his adopted country, Greenland, and made discoveries of minor importance. In the latter year he brought home a number of wonderful meteorites.

By this time the Peary Arctic Club, under whose auspices the pole-reaching exploit was carried out, had come into being, and under its auspices Peary made a long journey, lasting from 1898 to 1902. This was an important expedition, full of thrilling experiences and also of large scientific value.

During these four years Peary spent away from his home and beyond the realm of white men he rounded the northern extremity of the Greenland archipelago, which is the most northerly land in the world. He named the cape he found there after Morris K. Jesup, the Philadelphia capitalist, who was enthusiastic in Peary's support, and who died without seeing his protege's final success. On this trip Peary attained a far northern record, reaching

84 degrees north latitude. The expedition of 1905-6, however, was more important than any Peary had undertaken as a stepping-stone toward his attainment of the North pole. This time he dashed as far as latitude 87, the highest mark yet attained by any polar explorer. This expedition is worth considering in some detail. Peary and his followers left New York July 16, 1905. The loyal old Kite had long since been out of service, and a staunch new boat, one of the best ever designed for polar service, was the vessel on which the explorer rode out of New York harbor. It had been christened by Mrs. Peary, who appropriately broke a piece of ice over its bows, and its name was the Roosevelt. As the reader will recognize, this was the same craft that took Peary to Greenland on the pole-finding trip of 1909.

The Roosevelt sailed up Baffin Bay to Etah, Greenland, the favorite port for Arctic travelers, and there was put in final shape for a hard journey amid the ice. After taking on board a large party of Eskimos, to act as hunters and guides, the boat sailed from Etah Aug. 17 of the same year. Among the most important travelers were 200 Eskimo dogs. After cruising about for some time in an effort to find the best place from which to begin a swift journey toward the pole, Peary ran his craft into a nook under Cape Sheridan, one of the most northerly capes of Grant Land. Here some terrible experiences were met, which are vividly told in one of Peary's own accounts of the expedition:

"Sept. 16," says Peary, "a large floe pivoted around Cape Sheridan, crushing everything before it, until at last it held the ship mercilessly between its blue side and the unyielding face of the ice-foot. Its slow, resistless motion was frightful, yet fascinating. * * * The pressure was terrific; the Roosevelt's ribs and interior bracing cracked like the discharge of musketry. The main deck amidships bulged up several inches, the main rigging hung slack, and the masts and rigging shook as in a violent gale; then, with a mighty tremor and a sound which reminded one of an athlete inhaling his breath for a supreme effort, the ship jumped upward. The big floe snapped against the edge of the ice-foot forward and aft under us, crumpling up its edge and driving it inshore some yards, and the commotion was transferred to the outer edge of the floe, which crumbled away with a dull roar as other floes smashed against it and tore off great pieces in the onward rush—leaving us stranded but safe. This incident, of course, put an end to all thoughts of further advance."

Further advance by ship, Peary meant. He had no thought of being dis-

heartened by savage ice or bitter cold. The whole party prepared to quit the Roosevelt, and take to the sledges. Before this was possible, however, a long winter was to be faced, and food must be procured for scores of men. It was impossible to make the sledge-trip in the darkness of the winter, but it was still possible to hunt game, for those experienced enough to bring down their prey without the light of the sun to aid their eyesight. Peary and his Eskimo went forth and became huntsmen. They brought down 250 musk oxen, which form one of the staples of food in that region. Also they were fortunate enough to find many score of the rare and beautiful Arctic reindeer, which are snow-white and as graceful as their brethren of farther south.

On October 12 they saw the sun go down, to be seen no more for months. Then the black winter, in which the little ship cast forth the only light for hundreds of miles around. The winter passed without serious mishap to any of the human members of the party; but eighty of the dogs died of poisoning caused by the whale-meat which had been taken along for their sustenance. This caused the hunting to be redoubled, since the trip was all but hopeless should the remainder of the animals suffer the same fate.

It was a hard winter in more ways than one. Sometimes the ice would break away from the shore, and the seas would dash against the Roosevelt, threatening to swamp her.

"Simultaneously," says Peary, "a violent southerly gale blew up, threatening to tear the ship from her moorings. The port anchor and cable and every steel and manila cable on board were made fast to the ice-foot. * * * The next three weeks were a period of constant anxiety, the ice-pack surging back and forth along shore on each tide, and liable to crush in upon us at any time. Every one slept in his clothes, all lanterns and portable lights were kept below and trimmed, and provision was made for the instant extinguishment of all fires."

Peary does not add that it became necessary to put out the fires, and the party must have been thankful that what little heat they had was spared. With February the sun reappeared, and those on board ship were split up into four parties, to take dogs and sledges and work northward. Peary headed the last sledge-party. The sun shone out on March 6. A few days later Peary encountered several of the other parties and learned from them of the difficulties of advance. He then determined that supporting parties were useless, and that he himself must make a dash.

"At Storm Camp," he writes, "we abandoned everything not absolutely necessary and I bent every energy to setting a record pace.

"The first march of ten hours, myself in the lead with the compass, sometimes on a dog trot, the sledges following in Indian file with drivers running beside or behind, placed us thirty miles to the good—my Eskimos said forty. Four hours out on the second march I overtook Henson (head of one of the supporting parties) in his third camp, beside a lead which was closed. When I arrived, he hitched up and followed behind my hurrying party. I had with me now seven men and six teams with less than half a load for each.

"As we advanced, the character of the ice improved, the floes becoming much larger and pressure ridges infrequent, but the cracks and narrow leads increased, and were nearly all active. These cracks were uniformly at right angles to our course, and the ice on the northern side was moving more rapidly eastward than that on the southern.

"As dogs gave out, unable to keep the pace, they were fed to the others. April 20 we came into a region of open leads, trending nearly north and south, and the ice motion became more pronounced. Hurrying on between these leads, a forced march was made. Then we slept a few hours, and starting again soon after midnight, pushed on till noon of the 21st.

"My observation then gave 87° 6′. So far as history records this is the nearest approach to the north pole ever made by human beings.

"I thanked God with as good a grace as possible for what I had been able to accomplish, though it was but an empty bauble compared with the splendid jewel for which I was straining my life out. But, looking at the skeleton forms of my remaining dogs and the nearly empty sledges, and bearing in mind the drifting ice and the unknown quantity of the big lead between us and the nearest land, I felt that I had cut the margin as narrow as could be reasonably expected.

"My flags were flung out from the summit of the highest pinnacle near us, and a hundred feet or so beyond this, I left a bottle containing a brief record and a piece of the silk flag which six years before I had carried around the northern end of Greenland."

The scientific results of this expedition were the following:

Reached 87 degrees N. latitude April 21, 1906.

Traversed and delineated an unknown portion of the north coast of Grant Land.

Discovered new land near Parallel 83 and Meridian 100.

Made a new and accurate census of the Eskimo people.

More important than the scientific results, however, were the moral results. Attainment of a point within three degrees of the pole showed Peary that by a little more effort, a little more suffering, and a little more luck, he could compass the few score miles and "nail the stars and stripes" to the pole.

The great year of 1909 was near.

CHAPTER XIV.

TROUBLES OF THE POLAR EXPLORER.

It is doubtful whether Dr. Cook will ever be able to paint in vivid enough colors the privations he endured in his rush toward the north. To him, probably, much of what he endured will appear as a nightmare. He will start from his pillow, some nights, fancying himself still driving a dog sled through blinding snows. Even if his memory retains distinctly what he suffered, he will doubtless find it hard to pick out words to convey the idea to others.

To understand it at all, one may go back to the records that are left of the deeds of Cook's predecessors in polar search. No more thrilling suggestion could be found of the experiences men are willing to suffer in the pursuit of knowledge for the sake of outstripping others.

The early arctic explorers, of course, endured much that Cook was saved through his being able to profit by experience, and through his taking advantage of modern methods. Scurvy, for example, the disease that has brought a horrible end to so many who lived for months in bitter cold, did not threaten him. He knew how to guard against it, and he had foods that did not contain the seeds of that malady. But the death he faced was the same that carried away some eight hundred men who sought the pole at one time or another—the death, slow, torturing, and malignant, caused by intense cold.

Farther on in this volume will be found an account of some of the early arctic voyages that ended in tragedy. Here, however, an effort will be made to give some idea of the sight and sounds peculiar to the polar region.

At the north pole itself the sun rises and sets only once in twelve months. From March 21 to September 23 daylight continues; from September 23 to March 21 the sun is never visible. Dr. Cook arrived at the pole during the period of daylight; yet it must have been a cheerless daylight he saw. For what is daylight unless it reveals life and beauty? At the pole, so Dr. Cook himself says, there was no sign of animation at all—either of man or beast. It was, he says, "an endless field of purple snows. No life. No land. No

sight to relieve the monotony of frost. We (he and his two Eskimo companions) were the only pulsating creatures in a dead world of ice."

The heat at midsummer in the polar region is hardly ever above the freezing point; at midwinter, the cold is so intense that one's eyes would freeze in their sockets if exposed to it. And there are other strange and terrifying features. As summer gives place to the cold of autumn, and as winter gives way to the mild temperature of spring, there comes down upon the water a dense mass or fog, to which the name of "frost-smoke" is given. An ancient Greek mariner, Pytheas, who sailed far north, was led by this "frost smoke" to give a curious account of his trip. He was there during the six months' darkness, and he says he came to a great dark wall rising up out of the sea. He could not see beyond it. At the same time, according to his story, something seized his ship and held it motionless on the water, so the winds could not move it. He supposed he had come to a place where a parapet ran around the world to keep men from falling over (for in the time of this explorer, of course, men believed the world was flat). So this voyager hurried home and told his friends he had reached the limits of the earth.

Later navigators saw sights some of which are to be experienced today. Many of these mariners got far enough north to see the great icebergs, floating majestically in the sea and towering like mountains. Some saw the animals that dwell in the far north—the polar bear with its coat of shaggy white fur; the walrus, with its gleaming tusks hanging down from its upper jaws; the ungainly seals; the penguins, strange birds with short stumps of wings and uncouth cries; and whales, spouting and floundering in the sea.

The sounds are sometimes as terrifying as the sights. The frosty air carries noises a long distance. When Commander Peary was on a far northern island he says he heard the voices of men talking a mile away.

"In the depth of winter," says a writer, "when the cold has its icy grip on everything, the silence is unbroken along the shores of the Polar Sea; but when the frost sets in, and again when the winter gives way to spring, there is abundance of noise. As the frost comes down along the coast, rocks are split asunder with a noise of big guns, and the sound goes booming away across the frozen tracts, startling the slouching bear in his lonely haunts, and causing him to give vent to his hoarse, barking roar in answer. The ice, just forming into sheets, creaks and cracks as the rising or falling tide strains it along the shore; fragments falling loose upon its skid across the surface with the ringing sound which travels so far. In the spring the melting ice-floes groan as they

break asunder; with a mighty crash the unbalanced bergs fall over, churning the water into foam with their plunge, and bears and foxes and all the other arctic animals call and bark to one another as they awaken from their winter sleep."

A source of trouble to arctic travelers often are the characteristics of the Eskimo dogs. These animals are the only ones that can be depended on to draw the sledges, for no others could endure the cold and the lack of food that accompanies travel in regions of solid ice. But no traveler, unless he be as experienced as Dr. Cook, who used them exclusively after leaving his ship, can manage the queer creatures. Some of their traits are interestingly described by a writer on polar exploration, as follows:

"When a dog team is harnessed up to a sledge, every dog does not pull his hardest, and a suggestion from the whip is advisable. The dog, however, is inclined to resent it, and at once bites his neighbor by way of protest. The neighbor in turn bites his neighbor, who does the same, until the whole team has received the sting arising from the first lash, and all the dogs are howling and snapping and jumping over one another. The application of the whip handle instead of the whip lash is then necessary, and when at length quiet is restored, the driver has to set to work to unplait the harness, which has been twisted and tied into a terrible tangle by the antics of the team. When, at the expense of a great deal of patience and time, everything is ready for a fresh start, the inexperienced driver is able to estimate the value of cracking the whip over, instead of on, the back of a lazy dog.

"Even then, however, it is not all plain sailing. The dogs possess a wisdom of their own, and they never act so well together as when they reach a piece of particularly rough ice over which the sledge does not move easily. Directly they find that they have to lean heavily against the collar to pull the load forward, they with one accord turn around, sit down, and look at the driver. If he is inexperienced, he lashes about him with his whip, and the dogs fight and tangle the harness; if he knows his animals, he puts his shoulder to the sledge, pushes it forward on to the toes of the team, whereupon each one gets up, hurries out of the way of the threatening sledge runners, and together pull it easily over the rough place.

"Another peculiarity of the dogs is their extraordinary appetite for leather. Shark skin the Eskimo consider to be bad for them because of its excessive roughness, but birds' skin, with the feathers on, are greatly relished by the insatiable feeders, and, as has been said, leather is an especial luxury. The

dogs are incorrigible thieves, and frequently sneak into the tents or, if on board ship, into cabins, in search of plunder. They are generally greeted with a kick, but should it be sufficiently energetic to dislodge the kicker's shoe, the dog at once seizes the delicacy and makes for a quiet spot on the ice where he can devour it at his leisure."

Desperate courage and the skill of a big-game hunter are required if one journeys in the arctic. When the rations run out, as they did in Dr. Cook's case before his return journey was over, the traveler has to depend on his ability to bring down the animals of the region.

Some of the experiences of an exploring party under these conditions are thus described:

"A small opening in the ice pack was discovered a mile or so from the camp, and on the ice around the water three seals were resting, having evidently been caught in the ice when it closed. With great care the hunters crept over the ice toward the animals, whose sacrifice meant so much to the castaways. Only two had rifles, the others carrying harpoons they had made from the tent poles, and which were anything but reliable weapons. Steady aim was taken by the two men who had the rifles at the two larger of the seals. Firing together one seal fell dead; the one which was not aimed at plunged into the water, and the other, badly wounded, hobbled to the edge of the ice. In another moment he would have been over and probably sunk to the bottom, had not one of the men flung away his harpoon and, springing forward, managed to seize the hind flippers of the wounded creature. His comrades rushed to his assistance and dragged both him and the seal back from the opening onto the ice, where the latter was quickly despatched.

"They were harnessing themselves to their victims in order to drag them over to the camp, when a loud snort from the opening caused them to start around just in time to see the third seal disappearing under the water. At once they understood the situation. The opening was the only one for miles, and the seal was compelled to come to the surface there to breathe, as he could not reach the top anywhere else for the ice. It was at once decided to wait for him, but as, if he were shot while in the water, he would inevitably sink to the bottom and be lost to them, they determined to lay a trap for him.

"The seals already killed were placed in natural attitudes near the water, and the men hastily retired to sheltering hammocks, to wait the return. The men with the rifles were both to fire upon him as soon as he emerged onto the ice, for he was too valuable to be lost. They had not waited very long before

he reappeared and, raising his head high out of the water looked around. Seeing nothing but the two seals on the ice, he swam leisurely round and round the opening before scrambling up onto the ice. As he reached it and moved towards his two companions, the men, who had been carefully aiming at him, fired and killed him.

"With the three seals, the party returned to the camp in high spirits, their arrival being the signal for general rejoicing, for not only would the blubber of the seals keep the lamp supplied with oil, but their skins were very welcome additions to the stock of warm coverings and the meat was an invaluable addition to the larder.

"Really it was more, but of that they were not aware until two days later, when one of the men was awakened by a short barking roar of a bear. He quickly roused his companions, and they made their way out of the hut with what weapons they possessed.

"The flesh of the seals had been suspended on a line between two poles near the other provisions so as to protect it from any chance visit by wolves or bears. As the first man peered out from the hut opening, he saw in the dim twilight two bears standing underneath the line of meat, sniffing up at it and growling. They had, it was afterwards learned, picked up the trail where the dead seals had been dragged from the opening in the ice, and had followed it to the camp.

"The man whispered back to his companions what he saw, and another man, armed with a rifle, crept to his side. Aiming together behind the shoulder of the larger of the bears, they fired simultaneously and brought their quarry down. Immediately the other bear turned towards the opening and with snarling teeth advanced. A third rifle was fired point-blank at its head, but the bullet failed to penetrate the massive skull, though it made the beast change its direction. As it turned away the men realized what it meant if it escaped, and there was a rush after it, the men loading and firing as quickly as they could load, so as to secure it before it disappeared in the dim grey twilight. It fell wounded, and was despatched by means of the impromptu spears."

Major-General A. W. Greeley, himself a polar hero, has this to say, in his "Handbook of Polar Discoveries," of the hardships encountered in the ice fastnesses:

"If one would gain an adequate idea of the true aspects of such voyaging he must turn to the original journals, penned in the great White North by

brave men whose 'purpose held to sail beyond the sunset.' In those volumes will be found tales of ships beset not only months, but years, of ice packs and ice fields of extent, thickness and mass so enormous that description conveys no idea; of boat journeys where constant watchfulness alone prevented instant death by drifting bergs or commingling ice floes; of land marshes when exhausted humanity staggered along, leaving traces of blood on snow or rock; of sledge journeys over chaotic masses of ice, when humble heroes straining at the drag ropes struggled on because the failure of one compromised the safety of all; of solitude and monotony, terrible in the weeks of constant polar sunlight, but unsettling the reason in the months of continuous Arctic darkness; of silence awful at all times, but made yet more startling by astounding phenomena that appeal noiselessly to the eye; of darkness so continuous and intense that the disturbed mind is driven to wonder whether the ordinary course of nature will bring back the sun or whether the world has been cast out of its orbit in the planetary universe into new conditions; of cold so intense that any exposure is followed by instant freezing; of monotonous surroundings that threaten with time to unbalance the reason; of deprivations wasting the body and so impairing the mind; of failure in all things, not only of food, fuel and clothing and shelter—for Arctic service foreshadows such contingencies—but the bitter failure of plans and aspirations, which brings almost inevitably despair in its train.

"Failure of all things, did I say? Nay, failure, be it admitted, of all the physical accessories of conceived and accomplished action, but not failure in the higher and more essential attributes—not of the mental and moral qualities that are the foundation of fortitude, fidelity and honor. Failure in this latter respect have been so rare in Arctic service as to justly make each offender a byword and scorn to his fellow laborers and successors. Patience, courage, fortitude, foresight, self-reliance, helpfulness—these grand characteristics of developed humanity everywhere, but which we are inclined to claim as especial endowments of the Teutonic races, find ample expression in the detailed history of Arctic exploration. If one seeks to learn to what extent man's determination and effort dominate even the most adverse environment, the simple narratives of Arctic exploration will not fail to furnish striking examples."

Many interesting accounts are given of the terrible cold, which, after all, is the worst of the polar explorers' troubles.

Capt. John Franklin—afterwards admiral—speaks of fish being frozen, saying:

"It may be worthy of notice here, that the fish froze as they were taken out of the nets, and in a short time became a solid mass of ice, and by a blow or two of the hatchet were easily split open, when the intestines might be removed in one lump. If, in this completely frozen state, they were thawed before the fire, they recovered their animation. This was particularly the case with the carp; and we had occasion to observe it repeatedly, as Dr. Richardson (one of the party) occupied himself in examining the structure of the different species of fish, and was always, in the winter, under the necessity of thawing them before he could cut them. We have seen a carp recover so far as to leap about with much vigor after it had been frozen for thirty-six hours."

If such is the effects on fish, what of men? This same Dr. Richardson nearly lost his life while the expedition of which he and Franklin were members in 1821 was exploring the north coast of America. They traveled for a time in canoes, and their food gave out. Daily they became weaker, and less capable of exertion; one of the canoes was so much broken by a fall, that it was burned to cook a supper; the resource of fishing, too, was denied them, for some of the men, in the recklessness of misery, threw away the nets. Rivers were to be crossed by wading, or in the canoe; on one of these occasions Franklin took his seat with two of the voyageurs in their frail bark, when they were driven by the force of the stream and the wind to the verge of a frightful rapid, in which the canoe upset, and, but for a rock on which they found footing, they would there have perished. On June 19th, previous to setting out, the whole party ate the remains of their old shoes, and whatever scraps of leather they had, to strengthen their stomachs for the fatigue of the day's journey. "These," adds Franklin, "would have satisfied us in ordinary times, but we were now almost exhausted by slender fare and travel, and our appetites had become ravenous. We looked, however, with humble confidence to the great Author and Giver of all good for a continuance of the support which had hitherto been always supplied to us at our greatest need."

Dr. Richardson finally undertook to swim the Copperwire river, carrying a line by which a raft might be hauled over.

"He launched into the stream," says Franklin, "with the line round his middle, but when he had got to a short distance from the opposite bank, his arms became benumbed with cold, and he lost the power of moving them;

still he persevered, and, turning on his back, had nearly gained the opposite shore, when his legs also became powerless, and, to our infinite alarm, we beheld him sink. We instantly hauled upon the line, and he came again on the surface, and was gradually drawn ashore in an almost lifeless state. Being rolled up in blankets, he was placed before a good fire of willows, and, fortunately, was just able to speak sufficiently to give some slight directions respecting the manner of treating him. He recovered strength gradually, and, through the blessing of God, was enabled, in the course of a few hours, to converse, and by the evening was sufficiently recovered to remove into the tent. We then regretted to learn that the skin of his whole left side was deprived of feeling, in consequence of exposure to too great heat. He did not perfectly recover the sensation of that side until the following summer. I cannot describe what every one felt at beholding the skeleton which the doctor's debilitated frame exhibited. When he stripped, the Canadians simultaneously exclaimed, *'Ah! que nous sommes maigres!'* "

After reading that, could one imagine a mosquito in the Arctic? Yet they are a terrible pest there. Captain Hall describes a walk in July, in the following language:

"The sun was about five degrees high. Not a breath of air stirring, the sun shining hot, and the mosquitoes desperately intent on getting all the blood of the only white man of the country. I kept up a constant battling with my seal-skin mittens directly before my face, now and then letting them slap first on one and then on the other of my hands, which operations crushed many a foe. It seemed to me at times as if I never would get back. Minutes were like hours, and the distance of about two miles seemed more like half a score. At length I got back to my home, both temperature and temper high. I made quick work in throwing open the canvas roof of our stores, and, getting to our medicine-chest, snatched a half-pint bottle of mosquito-proof oil, and with a little of this besmeared every exposable part of my person. How glorious and sudden was the change! A thousand devils, each armed with lancet and blood-pump, courageously battling my very face, departed at once in supreme disgust at the confounded stink the coal-oil had diffused about me."

Of the dreadful thirst of the Arctic, which some seek to allay by eating snow, the diary of an explorer of the last century says:

"The use of snow when persons are thirsty does not by any means allay the insatiable desire for water; on the contrary, it appears to be increased in proportion to the quantity used, and the frequency with which it is put into

the mouth. For example: a person walking along feels intensely thirsty, and he looks to his feet with coveting eyes; but his sense and firm resolutions are not to be overcome so easily, and he withdraws the open hand that was to grasp the delicious morsel and convey it into his parching mouth. He has several miles of a journey to accomplish, and his thirst is every moment increasing; he is perspiring profusely, and feels quite hot and oppressed. At length his good resolutions stagger, and he partakes of the smallest particle, which produces a most exhilarating effect; in less than ten minutes he tastes again and again, always increasing the quantity; and in half an hour he has a gum-stick of condensed snow, which he masticates with avidity, and replaces with assiduity the moment that it has melted away. But his thirst is not allayed in the slightest degree; he is as hot as ever, and still perspires; his mouth is in flames, and he is driven to the necessity of quenching them with snow, which adds fuel to the fire. The melting snow ceases to please the palate, and it feels like red-hot coals, which, like a fire-eater, he shifts about with his tongue, and swallows without the addition of saliva. He is in despair; but habit has taken the place of his reasoning faculties, and he moves on with languid steps, lamenting the severe fate which forces him to persist in a practice which in an unguarded moment he allowed to begin. . . . I believe the true cause of such intense thirst is the extreme dryness of the air when the temperature is low."

The woes of the explorer cannot better be told than by extracts from the diary of John Herron, one of a party left adrift on an ice-raft during the expedition of the ship Polaris, under Charles F. Hall, in 1872. There were nineteen persons in his party, including two women and four children.

Describing the way the party was lost, Herron says:

"October 15.—Gale from the southwest; ship made fast to floe; bergs pressed in and nipped the ship until we thought she was going down; threw provisions overboard, and nineteen souls got on the floe to receive them and haul them up on the ice. A large berg came sailing down, struck the floe, shivered it to pieces, and freed the ship. She was out of sight in five minutes. We were afloat on different pieces of ice. We had two boats. Our men were picked up, myself among them, and landed on the main floe, which we found to be cracked in many places. Saved very little provisions.

"October 16.—We remained shivering all night. Morning fine; light breeze from the north; close to the east shore. The berg that did so much damage half a mile to the northeast of us. Captain Tyson reports a small

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ROOSEVELT BIDDING PEARY GOOD-BYE JUST BEFORE THE START FOR THE POLE.

THE WALRUS—THESE ANIMALS KEPT DR. COOK AND HIS PARTY ALIVE ON THEIR RETURN JOURNEY.

DR. COOK IN THE ICE NORTH OF THE 87TH PARALLEL.

island a little to the north of the berg and close to the land. Plenty of open water. We lost no time in launching the boats, getting the provisions in and pulling around the berg, when we saw the Polaris. She had steam up, and succeeded in getting a harbor. She got under the lee of an island and came down with her sails set—jib, foresail, mainsail and staysail. She must have seen us, as the island was four or five miles off. We expected her to save us, as there was plenty of open water, beset with ice, which I think she could have gotten through. In the evening we started with the boats for shore. Had we reached it, we could have walked on board in one hour, but the ice set in so fast when near the shore that we could not pull through it. We had a narrow escape in jumping from piece to piece, with the painter in hand, until we reached the floe. We dragged the boat two or three hundred yards, to a high place, where we thought she would be secure until morning, and made for our provisions, which were on a distant part of the floe. We were too much worn out with hunger and fatigue to bring her along to-night, and it is nearly dark. We cannot see our other boat or our provisions; the snow-drift has covered our late tracks."

There was talk that Captain Buddington, of the Polaris, wilfully deserted the party; but Harron says:

"I don't think Captain Buddington meant to abandon us; he either thought we could easily get ashore, or else he could not get through the ice; I don't think he would do anything of the kind; standing on the ship, you would naturally think we could get ashore; it may have looked to him that we were right under the lee of the shore; it is very likely that he thought we could get ashore, and that he didn't understand our signals."

Further on Herron tells of numberless positions. His account reads:

"Thursday, Nov. 28.—Thanksgiving to-day; we have had a feast—four pint cans of mock turtle soup, six pint cans of green corn, made into scouch. Afternoon, three ounces of bread and the last of our chocolate—our days' feast, All well."

The next day, the 29th, they did not fare so well; they had to be content with boiled seal-skin; but the thickness of the hair baffled the masticatory powers of some of them.

Further extracts from the same source show the straits they were reduced to:

"December 2.—No open water has been seen for several days; cannot catch anything. Land has been seen for several days; cannot determine what shore

it is, E. or W. It has been so cloudy that we cannot select a star to go by; some think it is the E. land; for my part, I think it is the W. Boiled some seal-skin to-day and ate it—blubber, hair and tough skin. The men ate it; I could not. The hair is too thick, and we have no means of getting it off.

"December 5.—Light wind; a little thick; 15° below zero. A fox came too near to-day; Bill Lindemann shot him; skinned and cut him up for cooking. Fox in this country is all hair and hair.

"December 6.—Very light wind; cold and clear. The poor fox was devoured to-day by seven of the men, who liked it; they had a mouthful each for their share; I did not think it worth while, myself, to commence with so small an allowance, so I did not try Mr. Fox. Last night fine northern lights.

"December 8.—All in good health. The only thing that troubles us is hunger—that is very severe; we feel sometimes as though we could eat each other. Very weak, but, please God, we will weather it all.

"December 13.—Light wind; cloudy; 19° below zero. Hans caught a small white fox in a trap yesterday. The nights are brilliant, cold and clear. The scene is charming, if we were only in a position to appreciate it.

"December 20.—Light wind; cloudy. Joe found a crack yesterday and three seals. Too dark to shoot. It is a good thing to have game underneath us. It would be much better to have them on the floe for starving men.

"December 22.—Calm and clear as a bell; the best twilight we have seen for a month. It must have been cloudy or we are drifting south fast. Our spirits are up, but the body is weak; 15° below zero."

They began now to count the days until they could expect the sun to shine forth, with how much joy we can partially imagine, when we recollect that for nearly three months he had hidden his glorious face, and they had been groping in the darkness of an Arctic winter. Herron tells of their Christmas:

December 24.—Christmas Eve. We are longing for to-morrow, when we shall have quite a feast—half pound of raw ham, which we have been saving nearly a month for Christmas. A month ago our ham gave out, so we saved this for the feast. Yesterday, 9 degrees below zero; to-day, 4 degrees above zero.

"December 25.—This is a day of jubilee at home, and certainly here for us; for besides the approaching daylight, which we feel thankful to God for sparing us to see, we have quite a feast to-day—one ounce of bread extra per man, which made our soup for breakfast a little thicker than for dinner. We

had soup made from a pound of seal blood, which we had saved for a month; a two-pound can of sausage meat, the last of the canned meat; a few ounces of seal, which we saved with the blood, all cut up fine; last of our can of apples, which we saved also for Christmas. The whole was boiled to a thick soup, which I think was the sweetest meal I ever ate. This, with half pound of ham and two ounces of bread, gave us our Christmas dinner."

As Spring came on the experiences became dreadful. Herron says:

"April 5.—Blowing a gale from the N. E., and a fearful sea running. Two pieces broke from the floe. We are on one close to the ten. At 5 a. m. removed our things to the centre. Another piece broke off, carrying Joe's hut (just built) with it; luckily, it gave some warning, so that they had time to throw out some things before it parted. A dreadful day; cannot do anything to help ourselves. If the ice break up much more, we must break up with it; set a watch all night.

"April 6.—Wind changed to N. W.; blowing a very severe gale. Still on the same ice; cannot get off. At the mercy of the elements. Joe lost another hut to-day. The ice, with a roar, split across the floe, cutting Joe's hut right in two. We have but a small piece left. Cannot lie down to-night. Put a few things in the boat, and now standing by for a jump; such is the night.

"April 7.—Wind W. N. W.; still blowing a gale, with a fearful sea running. The ice split right across our tent this morning at 6 a. m. While getting a few ounces of bread and pemmican we lost our breakfast in scrambling out of our tent, and nearly lost our boat, which would have been terrible. We could not catch any seal after the storm set in, so we are obliged to starve for a while, hoping in God it will not be for a long time. The worst of it is we have no blubber for the lamp, and cannot cook or melt any water. Everything looks very gloomy. Set a watch; half the men are lying down, the others walking outside the tent.

"April 8.—Last night, at twelve o'clock, the ice broke again between the tent and the boat, which were close together—so close that a man could not walk between them. There the ice split, separating the boat and tent, carrying away boat, kayak and Mr. Meyer. There we stood, helpless, looking at each other. It was blowing and snowing, very cold, and a fearful sea running. The ice was breaking, lapping and crushing. The sight was grand, but dreadful to us in our position. Mr. Meyer cast the kayak adrift, but it went to leeward of us. He can do nothing with the boat alone, so they

are lost to us unless God returns them. The natives went off on a piece of ice with their paddles and ice-spears. The work looks dangerous; we may never see them again. But we are lost without the boat, so that they are as well off. After an hour's struggle we can make out, with what little light there is, that they have reached the boat, about half amile off.

"There they appear to be helpless, the ice closing in all around, and we can do nothing until daylight. Daylight at last,—3 a. m. There we see them with the boat; they can do nothing with her. The kayak is the same distance in another direction. We must venture off; may as well be crushed by the ice and drowned as to remain here without the boat. Off we venture, all but two, who dare not make the attempt. We jump or step from one piece to another as the swell heaves it and the ice comes close together, one piece being high, the other low, so that you watch your chance to jump. All who ventured reached the boat in safety, thank God! and after a long struggle we got her safe to camp again."

"April 20.—The wind here from the northwest. Blowing a gale in the northeast. The swell comes from there, and is very heavy. The first warning we had—the man on watch sang out at the moment—a sea struck us, and washing over us, carried away everything that was loose. This happened at nine o'clock last night. We shipped sea after sea, five and ten minutes after each other, carrying away everything we had in our tent, skins and most of our bedclothing, leaving us destitute, with only the few things we could get into the boat. There we stood from nine in the evening until seven next morning, enduring, I should say, what man never stood before. The few things we saved and the children were placed in the boat. The sea broke over us during that night and morning. Every fifteen or twenty minutes a sea would come, lift the boat and us with it, carry us along the ice, and lose its strength near the edge and sometimes on it. Then it would take us the next fifteen minutes to get back to a safe place, ready for the next roller. So we stood that long hour, not a word spoken, but the commands to "Hold on, my hearties; bear down on her; put on all your weight," and so we did, bearing down and holding on like grim death. Cold, hungry, wet and little prospect ahead."

The crisis seemed to be rapidly drawing near. Their little ice-cake, already too small for the erection of a hut on it, was wasting away hourly, and at last, on the 25th, the gale reached them, and they were compelled at great risk to embark again in their boat. They were forced back to the floe, however.

At the end of April a steamer appeared. Herrons tells of it thus:

"April 28.—Gale of wind sprung up from the west. Heavy sea running; water washing over the floe. All ready and standing by our boat all night. Not quite so bad as the other night. Snow squalls all night and during forenoon. Launched the boat at daylight (3.30 a. m.), but could get nowhere for the ice. Heavy sea and head wind; blowing a gale right in our teeth. Hauled up on a piece of ice at 6 a. m. and had a few hours' sleep, but were threatened to be smashed to pieces by some bergs. They were fighting quite a battle in the water, and bearing right for us. We called the watch, launched the boat and got away, the wind blowing moderately and the sea going down. We left at 1 p. m. The ice is much slacker, and there is more water than I have seen yet. Joe shot three young bladder-nosed seals on the ice coming along, which we took in the boat. 4.30, steamer right ahead and a little to the north of us. We hoisted the colors, pulled until dark, trying to cut her off, but she does not see us. She is a sealer, bearing southwest. Once she appeared to be bearing right down upon us, but I suppose she was working through the ice. What joy she caused! We found a small piece of ice and boarded it for the night. Night calm and clear. The stars are out the first time for a week, and there is a new moon. The sea quiet, and splendid northern lights. Divided into two watches, four hours' sleep each; intend to start early. Had a good pull this afternoon; made some westing. Cooked with blubber fire. Kept a good one all night, so that we could be seen."

The morning of the 29th Herron says:—"Morning fine and calm; the water quiet. At daylight sighted the steamer five miles off. Called the watch, launched the boat and made for her. After an hour's pull gained on her a good deal." And they finally reached the steamer and were rescued, in latitude 53:35. The vessel was the Tiqess, of St. John's, N. F.

Sometimes polar explorers are able to save lives. The loss of the transport Bredalbane, in Aug. 21, 1853, near Cape Riley, was such an instance, the steamer Phœnix being the agent of rescue. Mr. Fowekher, agent for the Bredalbane, tells the story thus:

About ten minutes past four the ice passing the ship awoke me. I put on my clothes, and on getting up, found some hands on the ice endeavoring to save the boats, but these were instantly crushed to pieces. I went forward to hail the Phœnix, for men to save the boats; and whilst doing so the ropes by which we were secured parted, and a heavy nip took the ship, making her tremble all over, and every timber in her creak. I looked in the main hold, and saw the beams giving way; I hailed those on the ice, and told them of our

critical situation. I then rushed to my cabin, and called to those in their beds to save their lives. On reaching the deck, those on the ice called out to me to jump over the side—that the ship was going over. I jumped on the loose ice, and, with difficulty, and the assistance of those on the ice, succeeded in getting on the unbroken part. After being on the ice about five minutes, the timbers in the ship cracking up as matches would in the hand, the nip eased for a short time, and I, with some others, returned to the ship, with the view of saving some of our effects. Captain Inglefield now came running toward the ship. He ordered me to see if the ice was through the ship; and, on looking down in the hold, I found all the beams, &c., falling about in a manner that would have been certain death to me had I ventured down there. It was too evident that the ship could not last many minutes. I then sounded the well, and found five feet in the hold; and whilst in the act of sounding, a heavier nip than before pressed out the starboard-bow, and the ice was forced right into the forecastle. Every one then abandoned the ship, with what few clothes he could save—some with only what they had on. The ship now began to sink fast, and from the time her bowsprit touched the ice until her mast-heads were out of sight it was not above one minute and a half. From the time the first nip took her until her disappearance, it was not more than fifteen minutes."

CHAPTER XV.

THE EARLIEST POLAR EXPLORATIONS.

Perhaps it is because of the obstacles and perils of polar investigation, rather than in spite of them, that the north has had a special fascination for men of daring. Certain it is that ever since modern history began, and even before that, explorers have been trying to push into the land of ice.

Some historians believe that in the dim days before America or even Europe was populated, a strange race of men found the North Pole, and even dwelt there part of the year. They may have been some of the prehistoric peoples who penetrated many quarters of the globe, including America, and left traces of their life in buried cities and monuments. Perhaps in the years to come, when many men have been to the North Pole, some evidence of the earliest exploration in the region may come to light. But in our day nothing authentic is known of what was done in those times.

It has been definitely enough established, however, that for more than four hundred years the pole has lured on men of all nations to suffering and death.

The white races of Europe in the fifteenth and sixteenth centuries were eager for a new and speedier route to India than the one then made use of. These same races believed a speedier route to China existed. Columbus was only a searcher for this route. There is no positive historical evidence that he sought more than this when he left Spain. And he was preceded by scores of searchers braver and worthier than he in this quest.

Those who came after him for decades did not accept America as a continent with an entity of its own. Jean Nicollet, coming in 1634 to what is now northern Wisconsin, dressed himself in the robes of a Chinese mandarin when he met the Menomini because he believed he was on the road to China and was about to confront one of the rulers of that country.

In this chase for the royal road to the celestial empire it came about that the first lines of the tragedy of the North Pole were written—the last are yet to be inscribed. The white men from Europe were not alone content to

search for this way through central North America; they pushed north and west of Labrador; they penetrated Baffin bay; they came to the open sea that surrounds the ice pack of the pole, and they sunk their ships there and died like men for the honor of their native lands and the spirit of discovery.

The geographers and the mapmakers gave them the location of the North Pole; legend-makers threw their deceptive veils over its seas; governments offered rewards for its discovery, and so apace grew the tragedy until today the piles of its victims and sunken treasure mark innumerable spots in the northern wastes.

Fridtjof Nansen, a Norwegian, reached 86 degrees 14 minutes April 7, 1896. Of known explorers he was the first to draw that near to the pole. He endured a temperature of 90 degrees below zero. He lived upon food of the vilest kind. So far he advanced, and then was driven back for life.

In 1266, a few years after the Magna Charta became part of history, a band of Norse sailors, men of Nansen's type and race, lost themselves in the wilds of Iceland. They reached as far north as 75 degrees 46 minutes. That is, it is supposed they did, for traces of their wreckage were found as far north as this latitude centuries afterward, but not beyond.

If they made record of what they discovered the ice and the polar waters swallowed it up. They did not come within 900 miles of the pole, but even at that the baleful influences of the world of cold came upon them and they perished by King William's Land.

Next came John Davis, whose name is now borne by the waters between Greenland and the Cumberland peninsula. He entered Baffin's bay and the Middle Ice, and in 1585 was just on the Arctic Circle at Cape Dyer. Two years later he had only reached latitude 72 degrees 12 minutes and there he quit, with many warnings as to the impossibility of conquering the ice.

Baffin followed him in 1616. He was an English navigator and explorer who aged before his time under the strain of Arctic travel. He was pilot of the Discovery, which in 1615 was dispatched by the Muscovy company to North America in search of the baffling northwest passage.

The search was given up at latitude 77. The ice between Grinnell Land and Greenland came down upon the Discovery with such force, provisions were so scarce, that it was a question of turning backward and fighting the way to the open sea for safety. Beyond the definite location of Baffin's bay the expedition amounted to but little. Scurvy attacked the sailors, scientific observations were few, the northwest passage a myth—so said the explorers.

Their dismal tales filled England with horror. Corporations hesitated to send new searchers out. Baffin himself would not go again. He died in 1623 in battle, fighting with the English against the Portuguese at Kishm island in the Persian gulf.

The tragedy, once started, grew in proportions as men's daring waxed more fierce. Barents and Heemskerck had wintered in 1596-97 at Barents' bay, on the western tongue of Nova Zembla. Willoughby was there in 1553 and Burrough in 1556. The latitude was 75, and the open waters at the point were given the name of Barents' sea.

Barents advanced toward the pole as far as latitude 76 in 1594, but no farther. He met floating ice everywhere, ice that tossed his ship about as though it were an eggshell; cold that penetrated to the marrow of his men. He, too, surrendered.

Afterward, all through the eighteenth century, hunters on ships, adventurers behind masts, geographers and others skirted just the outer edge of the polar world in a vain essay to find an open passage that would carry them safely through to the other side of the world.

No attempts during this century were made to break into the solid ice pack that girts the pole. It was not approached near enough to make it certain of existence. The approaches were confined to the fields of floating ice outside of the pack, frozen mountains that bore down upon ships and buried them in the sea with but a moment's warning.

So the seekers for the way kept to the Taimur peninsula, to the Finnish and Icelandic coast, to the western borders of Greenland or close to the Russian coast.

Sir William Edward Parry, though, brought to Arctic exploration the determination to enter the forbidden lands as far as his resources would permit. He made his first reputation as an officer in the English navy. He accompanied the Ross polar expedition, which accomplished nothing, and then in 1819 led one of his own.

He entered the Arctic regions from the south and east. He explored and named Barrow strait, Prince Regent's inlet and Wellington's sound. He reached Melville island in September, 1819, and to the group to which it belongs gave the name of Parry islands.

Sir William found that distress and suffering produced cannibalism in

the north islands; that the aborigines he came in contact with knew nothing of the ice belt surrounding the pole, or, if they did, could not tell.

Parry's explorations were between latitude 75 and 78, and by crossing longitude 110 west he won the $25,000 prize offered by parliament for the feat. Three times after 1819 by different approaches Parry sought to enter the polar ice, but failed. Some of his traveling companions went mad. Others prematurely aged or suddenly died. In 1827 he reached 82 degrees 45 minutes.

Parry describes the affliction of snow-blindness, something from which most Arctic explorers have suffered:

"Some of our men," says Parry, "having, in the course of their shooting excursions, been exposed for several hours to the glare of the sun and snow, returned at night much affected with that painful inflammation in the eyes occasioned by the reflection of intense light from the snow, aided by the warmth of the sun, and called in America 'snow blindness.' This complaint, of which the sensation exactly resembles that produced by large particles of sand or dust in the eyes, is cured by some tribes of American Indians by holding them over the steam of warm water; but we found a cooling wash, made by a small quantity of acetate of lead mixed with cold water, more efficacious in relieving the irritation, which was always done in three or four days, even in the most severe cases, provided the eyes were carefully guarded from the light. As a preventive of this complaint, a piece of black crape was given to each man, to be worn as a kind of short veil attached to the hat, which we found to be very serviceable. A still more convenient mode, adopted by some of the officers, was found equally efficacious; this consisted in taking the glasses out of a pair of spectacles, and substituting black or green crape, the glass having been found to heat the eyes and increase the irritation."

Parry also describes some of the characteristics of summer in the Arctic, the observations being taken in June.

"Having observed," says Parry, "that the sorrel was now so far advanced in foliage as to be easily gathered in sufficient quantity for eating, I gave orders that two afternoons in each week should be occupied by all hands in collecting the leaves of this plant; each man being required to bring in, for the present, one ounce, to be served in lieu of lemon-juice, pickles, and dried herbs, which had been hitherto issued. The growth of the sorrel was from this time so quick, and the quantity of it so great on every part of the ground about the harbor, that we shortly after sent the men out every afternoon for an hour

or two; in which time, besides the advantage of a healthy walk, they could, without difficulty, pick nearly a pound each of this valuable antiscorbutic, of which they were all extremely fond.

"By the 20th of June, the land in the immediate neighborhood of the ships, and especially in low and sheltered situations, was much covered with the handsome purple flower of the *saxifraga oppositifolia,* which was at this time in great perfection, and gave something like cheerfulness and animation to a scene hitherto indescribably dreary in its appearance.

"The suddenness with which the changes take place during the short season which may be called summer in this climate, must appear very striking when it is remembered that, for a part of the first week in June, we were under the necessity of thawing artificially the snow which we made use of for water during the early part of our journey to the northward; that, during the second week, the ground was in most parts so wet and swampy that we could with difficulty travel; and that, had we not returned before the end of the third week, we should probably have been prevented doing so for some time, by the impossibility of crossing the ravines without great danger of being carried away by the torrents,—an accident that happened to our hunting parties on one or two occasions in endeavoring to return with their game to the ships."

Another bold explorer was Admiral Von Wrangell, who was sent out in 1820 by Emporer Alexander, of Russia. The party attempted to discover a northern continent, and failed after many privations. Wrangell reached latitude 70:51, longitude 175:27 west. The ice they traversed was thin and weak. In the distance, at the end of their journey they saw signs of open water. Says the admiral: "Notwithstanding this sure sign of the impossibility of proceeding further, we continued to go due north for about nine versts, when we arrived at the edge of an immense break in the ice, extending east and west further than the eye could reach, and which at the narrowest part was more than a hundred and fifty fathoms across. . . . We climbed one of the loftiest icehills, where we obtained an extensive view toward the north and whence we beheld the wide, immeasurable ocean spread before our gaze. It was a fearful and magnificent, but to us a melancholy spectacle. Fragments of ice of enormous size floated on the surface of the agitated ocean, and were thrown by the waves with awful violence against the edge of the ice-field on the further side of the channel before us. The collisions were so tremendous, that large masses were every instant broken away; and it was evident that the portion of ice which still divided the channel from the open

ocean would soon be completely destroyed. Had we attempted to have ferried ourselves across upon one of the floating pieces of ice, we should not have found firm footing upon our arrival. Even on our own side, fresh lanes of water were continually forming, and extending in every direction in the field of ice behind us. With a painful feeling of the impossibility of overcoming the obstacles which nature opposed to us, our last hope vanished of discovering the land, which we yet believed to exist."

On returning from this extreme limit of their adventurous journey, the party were placed in a situation of extreme risk.

"We had hardly proceeded one werst," writes M. von Wrangell, "when we found ourselves in a fresh labyrinth of lanes of water, which hemmed us in on every side. As all the floating pieces around us were smaller than the one on which we stood, which was seventy-five fathoms across, and as we saw many certain indications of an approaching storm, I thought it better to remain on the larger mass, which offered us somewhat more security; and thus we waited quietly whatever Providence should decree. Dark clouds now rose from the west, and the whole atmosphere became filled with a damp vapor. A strong breeze suddenly sprang up from the west, and increased in less than half an hour to a storm. Every moment huge masses of ice around us were dashed against each other, and broken into a thousand fragments. Our little party remained fast on our ice-island, which was tossed to and fro by the waves. We gazed in most painful inactivity on the wild conflict of the elements, expecting every moment to be swallowed up. We had been three long hours in this position, and still the mass of ice beneath us held together, when suddenly it was caught by the storm, and hurled against a large field of ice. The crash was terrific, and the mass beneath us was shattered into fragments. At that dreadful moment, when escape seemed impossible, the impulse of self-preservation implanted in every living being saved us. Instinctively we all sprang at once on the sledges, and urged the dogs to their full speed. They flew across the yielding fragments to the field on which we had been stranded, and safely reached a part of it of firmer character, on which were several hummocks, and where the dogs immediately ceased running, conscious, apparently, that the danger was past. We were saved: we joyfully embraced each other, and united in thanks to God for our preservation from such imminent peril."

More than once during this trip the party heard from natives that land could be seen far away in the northern seas. The part of the coast alluded to

was Cape Jakan, which the explorers afterwards visited; but, although "they gazed long and earnestly on the horizon, in hopes, as the atmosphere was clear, of discerning some appearance of the northern land," they "could see nothing of it."

Captain Beechey, who sailed from England in the Dorothea and Trent expeditions in 1818, has left some interesting records. Speaking of the purpose of the voyage he said:

"The peculiarity of the proposed route afforded opportunities of making some useful experiments on the elliptical figure of the earth; on magnetic phenomena; on the refraction of the atmosphere in high latitudes in ordinary circumstances, and over extensive masses of ice; and on the temperature and specific gravity of the sea at the surface, and at various depths; and on meteorological and other interesting phenomena." The vessels sailed in April, 1818; Magdalena Bay, in Spitzbergen, having been appointed as a place of rendezvous, in case of separation.

On May 24 of that year they reached latitude 74, longitude 17:40 east. There they saw the midnight sun reflected from great ice-masses, described by Beechey thus:

"Very few of us had ever seen the sun at midnight; and this night happening to be particularly clear, his broad red disc, curiously distorted by refraction, and sweeping majestically along the northern horizon, was an object of imposing grandeur, which riveted to the deck some of our crew, who would perhaps have beheld with indifference the less imposing effect of the icebergs. The rays were too oblique to illuminate more than the inequalities of the floes, and, falling thus partially on the grotesque shapes, either really assumed by the ice or distorted by the unequal refraction of the atmosphere, so betrayed the imagination that it required no great exertion of fancy to trace in various directions architectural edifices, grottos, and caves, here and there, glittering as if with precious metals."

Interesting accounts of the habits of Arctic birds are given in Beechey's story.

"From an early hour in the morning until the period of rest returned, the shores around us reverberated with the merry cry of the little auk, willocks, divers, cormorants, gulls, and other aquatic birds; and, wherever we went, groups of walruses, basking in the sun, mingled their playful roar with the husky bark of the seal." The little auks or rotges (the *Alca alle*) were so numerous, that "we have frequently seen an uninterrupted line of them ex-

tending full half-way over the bay, or to a distance of more than three miles, and so close together that thirty have fallen at one shot. This living column might be about six yards broad and as many deep; so that, allowing sixteen birds to a cubic yard, there would be four millions of these creatures on the wing at one time.

"The reindeer," he says, "showed evident marks of affection for each other. They were at this time in pairs, and when one was shot the other would hang over it, and occasionally lick it, apparently bemoaning its fate; and, if not immediately killed, would stand three or four shots rather than desert its fallen companion."

Beechey also describes some ice-avalanches, a truly marvelous sight.

"The first was occasioned by the discharge of a musket at about half a mile's distance from the glacier. Immediately after the report of the gun, a noise resembling thunder was heard in the direction of the iceberg (glacier), and in a few seconds more an immense piece broke away, and fell headlong into the sea. The crew of the launch, supposing themselves beyond the reach of its influence, quietly looked upon the scene, when presently a sea arose and rolled toward the shore with such rapidity, that the crew had not time to take any precautions, and the boat was in consequence washed upon the beach, and completely filled by the succeeding wave. As soon as their astonishment had subsided, they examined the boat, and found her so badly stove that it became necessary to repair her in order to return to the ship. They had also the curiosity to measure the distance the boat had been carried by the wave, and found it to be ninety-six feet."

In viewing the same glacier from a boat at a distance, a second avalanche took place, which afforded them the gratification of witnessing the creation, as it were, of a sea iceberg; an opportunity which has occurred to few, though it is generally understood that such monsters can only be generated on shore.

"This occurred on a remarkably fine day, when the quietness of the bay was first interrupted by the noise of the falling body. Lieutenant Franklin and myself had approached one of these stupendous walls of ice, and were endeavoring to search into the innermost recess of a deep cavern that was near the foot of the glacier, when we heard a report as if of a cannon, and, turning to the quarter whence it proceeded, we perceived an immense piece of the front of the berg sliding down from the height of two hundred feet at least into the sea, and dispersing the water in every direction, accompanied by a loud, grinding noise, and followed by a quantity of water, which, being previously lodged

in the fissures, now made its escape in numberless small cataracts over the front of the glacier."

The plunge of the enormous mass caused the Dorothea to careen, though at a distance of four miles. Continuing, Beechey says:

"The piece that had been disengaged at first wholly disappeared under water, and nothing was seen but a violent boiling of the sea, and a shooting up of clouds of spray, like that which occurs at the foot of a great cataract. After a short time it reappeared, raising its head full a hundred feet above the surface, with water pouring down from all parts of it; and then, laboring as if doubtful which way it should fall, it rolled over, and after rocking about some minutes, at length became settled. We now approached it, and found it nearly a quarter of a mile in circumference, and sixty feet out of water. Knowing its specific gravity, and making a fair allowance for its inequalities, we computed its weight at 421,660 tons. A stream of salt water was still pouring down its sides, and there was a continual cracking noise, as loud as that of a cart-whip, occasioned, I suppose, by the escape of confined air."

Another thrilling marine adventure is described by DeLong, whose ship Jeannette was lost in 1881. DeLong's journal of June 12 reads as follows:

"At 7:30 a. m. the ice commenced to move toward the port side, but after advancing a foot or two came to rest. Employed one watch in hauling heavy floe into a small canal on the port bow, to close it up and receive the greater part of the thrust.

"At 4 p. m. the ice came down in great force all along the port side, jamming the ship hard against the ice on the starboard side, causing her to heel 16° to starboard. From the snapping and cracking of the bunker sides and starting in of the starboard ceiling, as well as the opening of the seams in the ceiling to the width of one and one-fourth inches, it was feared that the ship was about to be seriously endangered, and orders were accordingly given to lower the starboard boats and haul them away from the ship to a safe position on the ice-floe. This was done quietly and without confusion. The ice, in coming in on the port side, also had a movement toward the stern, and this last movement not only raised her port bow, but buried the starboard quarter, and jamming it and the stern against the heavy ice, effectually prevented the ship rising to pressure. Mr. Melville (chief engineer), while below in the engine-room, saw a break across the ship in the wake of the boilers and engines, showing that so solidly were the stern and starboard quarters held by the ice that the ship was breaking in two from the pressure upward exerted on the

port bow of the ship. The starboard side of the ship was also evidently broken in, because water was rising rapidly in the starboard coal-bunkers. Orders were now given to land one-half of the pemmican in the deck-house, and all the bread which was on deck, and the sleds and dogs were likewise carried to a position of safety. The ship was heeled 22° to starboard, and was raised forward 4′ 6″, the entire port bow being visible also to a height of 4′ 6″ from the forefoot. * * *

"At 5 p. m. the pressure was renewed, and continued with tremendous force, the ship cracking in every part. The spar-deck commenced to buckle up, and the starboard side seemed again on the point of coming in. Orders were now given to get out provisions, clothing, bedding, ship's books and papers, and to remove all sick to a place of safety. While engaged in this work another tremendous pressure was received, and at 6 p. m. it was found that the vessel was beginning to fill. From that time forward every effort was devoted to getting provisions, etc., on the ice, and it was not desisted from until the water had risen to the spar-deck, the ship being now heeled to starboard 30°. The starboard side was evidently broken in abreast of the mainmast, and the ship was settling fast. Our ensign had been hoisted at the mizzen, and every preparation made for abandoning the ship, and at 8 p. m. everybody was ordered to leave her. Assembling on the floe, we dragged all our boats and provisions clear of bad cracks, and prepared to camp down for the night."

SEAL-HUNTERS IN THEIR KAYAKS AROUND THE COAST OF GREENLAND.

DR. COOK'S LAST CARTRIDGE AFTER HIS PROVISIONS WERE EXHAUSTED.

ESKIMO WHO HAS REACHED LIMIT OF ENDURANCE.

CHAPTER XVI.

THE VOYAGE AND DEATH OF SIR JOHN FRANKLIN.

One of the most famous of the polar trips of the last hundred years was that of Sir John Franklin. It is famous for what he discovered and because of the terrible ending of a promising enterprise. Of all the stories of dreadful want and agony that have been preserved from the records of Arctic travelers, none surpasses that concerning these Englishmen whose fate remained a mystery for years.

Franklin was a bold English searfarer,—one of those born adventurers to whom even war seems to be too commonplace. His eyes were ever toward the unknown parts of the globe. He was truly of the mold of those to whom privation and a struggle with the terrible and mysterious is more alluring than domestic comfort.

He made several exploratory trips in his early years which were, in a way, a preparation for the climax of his career. He was about sixty years old when, in 1845, he started on his journey which was to be his last.

"The Erebus and Terror, which formed the fleet, had already proved their capacity for withstanding the strain and pressure of the ice floes. They each carried a crew numbering 67 officers and men, and while Franklin took charge of the Erebus with Captain Fitz-James, the Terror was commanded by Captain Crozier. The ships were provisioned for three years, and the task set them was to discover and sail through the passage from the Atlantic to the Pacific Oceans. The intention of the Government was to ascertain whether or not this passage existed and Franklin was instructed to go by Lancaster Sound to Cape Walker (lat. 74 degrees N.; long. 98 degrees W.) and thence south and west to push through Behring's Straits to the other ocean.

"Franklin was full of enthusiasm as to the outcome of the expedition. That it would prove the existence of the passage he had no doubt, and subsequent events justified him. But he had bigger notions then merely proving

the passage. 'I believe it is possible to reach the pole over the ice by wintering at Spitzbergen and going in the spring before the ice breaks up,' he said before starting, and no one would have been surprised had he returned in the three years with a record of the journey. Public interest was thoroughly aroused in the enterprise, and when the two vessels set sail from Greenhithe on May 19, 1845, they had a brilliant send-off. On June 1 they arrived at Stromness in the Orkney Islands, and on July 4 at Whale Fish Island, off the coast of Greenland, where the dispatch boat Barreto Junior parted company with them to bring home Franklin's dispatches to the Admiralty, reporting 'All Well.' Later on came the news that Captain Dannett, of the whaler Prince of Wales, had spoken them in Melville Bay."

This was the last direct news from Franklin's ships for many years,—in fact, the last ever seen of the voyagers by any eye save that of Eskimos. From what was learned later, however, it appears that the ships managed to reach Beechy Island at the entrance of Wellington Channel, and then proceeded to Barrows' Strait, nearly 100 miles west of the channel entrance. At this point the ships made anchorage, and the men faced the first winter with plenty of supplies, with the best of health, and without fear of the future.

"The first Christmas festival of the voyage was kept up with high revel. If fresh beef was not available, venison was, and there was plenty of material for the manufacture of the time-honoured 'duff.' The officers and men, clad in their thick, heavy fur garments, clustered together as the simple religious service was read, and over the silent white covering of sea and land the sound of their voices rolled as they sang the hymns and carols which were being sung in their native land. Then came the merry-making and the feasting in cabins decked with bunting, for no green stuff was available for decorating.

"The first New Year's Day was saddened by the death of one of their comrades, and the silent ice fields witnessed another impressive sight when the crews of both vessels slowly marched ashore to the grave dug in the frozen soil of Beechy Island. The body, wrapped in a Union Jack, was borne by the deceased man's messmates, the members of his watch headed by their officers following, and after them the remainder of the officers and crew. The bells of each ship tolled as the cortege passed over the ice, the crunching of the crisp snow under foot being the only other sound till the grave was reached. There the solemn and impressive service of a sailor's funeral was said, the mingled voices as they repeated the responses passing as a great hum through

the still cold air. A momentary silence followed as the flag-swathed figure was lovered into the grave, and then a quick rattle of fire-arms as the last salute was paid echoed far and wide among the ice-bergs.

"Twice more was that scene repeated before the ships cleared from the ice, and one of the first signs discovered by the searchers after Franklin were the three headstones raised on that lonely isle to the memory of W. Braine, John Hartwell, and John Torrington, who died while the ships were wintering in the cold season of 1845-6.

During this dark season some progress was made in the journey, for whenever the ice broke up for a spell, the ships were forced onward. By the end of the winter the expedition had reached within two hundred and fifty miles of the western end of the passage, and in July the voyage was resumed in earnest. Little by little they worked west,—how little is seen by the fact that they made but one hundred and fifty miles in two months. At the end of this period, in September, 1846, the ships became frozen in the ice for the last time. They were off the north end of King Williams' Land.

And now the explorers, first began to realize that all might not be well with them. They had provisions for three years when they started; and when the winter they were facing was over, they would have been in the Arctic two years. There was no help at hand, however, and another winter passed without light breaking on their problem.

Then, in the spring, it was seen something must be done. They could not go back; they must go forward. One hundred and thirty men looked to Franklin for their lives. He decided, in the emergency, to send a party ahead in the effort to discover the end of the passage and find open sea by which the ships could return home. Lieut. Gore was the man selected for this mission. He and his followers started overland, and after a terrific journey, at last reached an elevation from which they could discern the glorious open sea. The northeast passage had been found.

"To commemorate the fact the little party built a cairn upon the summit of the point, which they named Point Victory, and enclosed in a tin canister they deposited, under the cairn, a record of their trip and its results. Twelve years later this record was found, and by it the honour due to Franklin for the discovery of the passage was confirmed.

"Elated with the success of their efforts, Lieutenant Gore and his companions retraced their way back to the ships, for with the end of their journey near at hand, all fears of the provisions running short were at an end. As soon

as the ice broke up they would be away into the sea they had seen from Point Victory, and sailing home with their mission accomplished, their task completed, and nothing but honour and glory waiting them at home. As soon as they came within sight of the two ships, perched up among the ice ridges, they shouted out to their comrades to let them know of the success achieved. Round about the ships they saw men standing in groups, but instead of answering cheers, the men only looked in their direction. Unable to understand why so much indifference was displayed, Lieutenant Gore and his companions hurried forward, and, as they came nearer, some of the men separated themselves from the groups and came to meet them with slow steps.

"Soon the cause of their depression was made known to the returned explorers. The leader of the expedition lay dying in his cabin on board the Erebus."

No more tragic picture lives in all history than that of the white-haired British naval officer, lying in torment in his dark cabin, while the haggard men he had sent to spy out the land told him brokenly of their success. He knew that he had done what no other man had done; but he also knew he must die without receiving the plaudits of the multitudes at home. And so he died, June 11, 1847, amid the sobs of his officers.

When the leader of a desperate hope perishes, the fate of his followers hangs by a thread. So it was with the Franklin party. Capt. Crozier was named the leader, and he took up the burden as soon as Franklin was buried, there in the Arctic ice. Hopeless indeed seemed the situation. The ships could go neither forward nor backward; the food supply was dwindling. The men were beginning to show the effect of the long imprisonment. Yet all the time they were moving nearer the goal, for the mass of ice which held the ships was carrying them on.

Winter again. Now the scurvy invaded the crew. Men's minds began to fail. Some could not walk. Many lay helpless in their bunks. By April, 1848, twenty were dead.

It was agreed at last to take the desperate measure of abandoning the ships, and dashing for the spot Gore had discovered,—the brave Gore, who had by now succumbed with others. On April 22, a march was begun over the mainland, in an effort to reach the Great Fish river, where Eskimo camps might be found. But soon it was plain that not all of the men could reach the goal alive.

"A council was held, and it was decided that the strongest should take

enough supplies to last them for a time and push forward as rapidly as possible, while the remainder should follow at a slower rate and by shorter stages. The majority were in the latter division, and only a few days elapsed after the smaller band, numbering about thirty, had left, before the ravages of scurvy and semi-starvation made it possible for even less than five miles a day being covered. So debilitated were all the members that further advance was abandoned until they had, by another long rest, tried to recuperate their energies. But the terrible bleakness of the place where they were wrought havoc among them, and every day men fell down never to rise again, until the only hope for the survivors lay in returning to the ships, where, at least, they would have shelter.

"Wearily they staggered over the rugged ice ridges, each man expending his remaining energies in striving to carry provisions, without which only death awaited them. Men fell as they walked, unnoticed by their companions, whose only aim was to get back to the ships, and whose faculties were too dimmed to understand anything else. Blindly, but doggedly, they stumbled onward, silent in their agony, brave to the last when wornout nature gave way and they sank down, one after the other, till none was left alive and only the still figures, lying face downwards on the frozen snow, bore mute witness of how they had neither faltered nor wavered in their duty, but had died, as Britons always should die, true to the end."

Thirty of the men traveled less than five miles; others pushed ahead, and at last reached the cairn established by Gore. They placed within it another record, this time a record of death and disaster, telling the story of Franklin's end, and giving the names of the few survivors.

It was a case of men about to die performing a service for the dead. None of those who reached the cairn ever got more than a few miles from that point. For a little distance they proceeded, dragging on a sledge a heavy boat, their only hope if they should reach open water. Then came the crowning stroke when owing to a break-up of the ice, the boat floated away, and to save it they were forced to leave their food supplies behind. Then all was over. The few strongest who had gone on ahead turned back to the comrades they had left behind. Together, then, they died, and the Arctic snows of many a winter drifted over their bones.

During these years public sentiment had passed from pride in the daring of the expedition to anxiety over its fate, and finally into a great clamor that something should be done in their relief. Many enterprises of succor were

planned; many met with failure. It was years before any definite evidence of the fate of Franklin and his men was gleaned from the great frozen mystery.

In 1849 as many as eight expeditions, some sent by England, some by the United States, went in search of Franklin. The first to find traces of the dead was that of Capt. Shepherd Osborne, sent by the Hudson Bay Company. On the 23rd of August, 1850, when exploring Beechy Island, he found relics scattered over an area of several miles. They consisted of empty tin cans, the embankment of a house, and, finally, the graves of three men who had been members of the crews of the Erebus and the Terror.

Aroused by these discoveries five more parties went north in 1852, and as many more in 1853. The results of these were conclusive. In 1854 Dr. Rae met a band of Eskimos who had articles of silverware that had come from the missing ships. By trading with the Eskimos Dr. Rae got possession of a number of these relics. In the meantime a British expedition headed by Capt. McClure, in the Investigator, had been cruising in search during four years and when McClure was rescued from the plight in which his expedition had became caught, it was learned that he had found an Eskimo wearing in his ear a brass button cut from the clothing of one of Franklin's sailors. This led to the belief that the man had been murdered by the natives; but no proof of it was ever forthcoming.

Very important were the discoveries made by Sir L. F. McClintock, who went north in 1857 at the head of a party organized by the widow of Franklin. McClintock went direct to King Williams' Land, and found confirmatory evidence of the death of the Franklin party.

"On May 25, 1859, McClintock, while walking along a sandy ridge from whence the snow had disappeared, he noticed something white shining through the sand. He stooped to examine it, thinking it to be a round white stone, but closer inspection showed it to be the back of a skull. Upon the sand being removed, the entire skeleton was found, lying face downwards, with fragments of blue cloth still adhering to its bleached bones. The man had evidently been young, lightly built, and of the average height. Near by were found a small pocket brush and comb, and a pocket-book containing two coins and some scraps of writing. He had evidently fallen forward as he was walking, and never risen. As an old Eskimo woman told Dr. Rae, 'they fell down and died as they walked along,' overcome with cold, hunger and sickness.

"The explorers were now in the region where all their finds were to be

made. Five days later McClintock came upon a boat which he found, from a note attached to it, that Hobson had already examined. It had evidently escaped the notice of the Eskimo, and, until the white men found it, had probably not been touched by human hands from the moment its occupants had died. It was mounted on a sledge, as though it had been hauled over the ice; but from tht fact that its bows pointed towards the spot where the ships had been, it was surmised that the men were dragging it back to the vessels when they were overcome.

"Inside were two bodies, one lying on its side under a pile of clothing towards the stern, and the other in the bows, in such a position as to suggest that the man had crawled forward, had laboriously pulled himself up to look over the gunwale, and had then slipped down and died where he fell. Beside him were two guns, loaded and ready cocked, as though the man had been apprehensive of attack. There was also as many as five watches, several books (mostly with the name of Graham Gore or initials G. G in them), abundance of clothes and other articles such as knives, pieces of sheet lead, files, sounding leads and lines, spoons and forks, oars, a sail, and two chronometers, but of food only some tea and chocolate.

"The story mutely told by these relics was only too plain. Weary with hauling it, the majority of the men had left the boat in order to get back to the ships and obtain a fresh supply of provisions, leaving two, who were too weak to struggle on, in the boat as comfortable as they could be made until some of the others could get back to help them. Then the days had passed until the store of provisions had been consumed and the two sufferers had grown weary with waiting, so weary that one had slept and died under his wraps, and the other, with his remaining vestige of strength, had crawled forward to peep out once more for the help that was so long in coming. But only ice had met his gaze, and, sinking down, he had also passed into that overwhelming sleep, and had lain undisturbed for twelve years under the covering of the Arctic snows."

Others who helped prove Franklin's fate were Grinnell, an American; Peabody, an Englishman, and Sir John Ross, also a Briton, and Capt. Charles Francis Hall, of New London, Conn. While prosecuting their search they explored much territory and made discoveries of great value to science.

Most noted of all the explorers who thus turned the Franklin tragedy into great account for the advancement of learning was Elisha Kent Kane, an American physician. Dr. Kane's book, "Arctic Explorations," is one of the

most interesting and authoritative of all written in that period. Moreover, it was this volume, full of the romance of the mysterious north, that first fired Peary, the pole discoverer, with zeal to visit the Arctic region. The following chapter is given to Dr. Kane's work.

Thrilling in the extreme were the experiences of McClintock, McClure, Rae, and others. Not the least dramatic were the discovery of records of earlier expeditions.

McClintock, in 1850, tells of finding the place where Parry camped thirty years before. This was in a cove on Melville Island.

"On reaching the ravine leading into the cove," he says, "we spread across, and walked up, and easily found the encampment, although the pole had fallen down. The very accurate report published of his journey saved us much labor in finding the tin cylinder and ammunition. The crevices between the stones piled over them were filled with ice and snow; the powder completely destroyed, and cylinder eaten through with rust, and filled with ice. From the extreme difficulty of descending into such a ravine with any vehicle, I supposed that the most direct route, where all seemed equally bad, was selected; therefore sent the men directly up the northern bank, in search of the wheels which were left where the cart broke down. They fortunately found them at once; erected a cairn about the remains of the wall built to shelter the tent; placed a record on it, in one tin case within another. We then collected a few relics of our predecessors, and returned with the remains of the cart to our encampment. An excellent fire had been made with willow stems; and upon this a kettle, containing Parry's cylinder, was placed. As soon as the ice was thawed out of it, the record it contained was carefully taken out. I could only just distinguish the date. Had it been in a better state of preservation, I would have restored it to its lonely position."

Capt. Inglefield, in the Isabel, a steamer fitted out by Lady Franklin in 1852, tells of a gale during which he attempted to land on the coast of Smith's Sound in latitude 78:28. After describing the impossibility of landing Inglefield says:

"The rest of the 27th and the following day were spent in reaching, under snug sail, on either tack, whilst the pitiless northerly gale drove the sleet and snow into our faces, and rendered it painful work to watch for the icebergs, that we were continually passing. On this account, I could not heave the ship to, as the difficulty of discerning objects rendered it imperative that she should be kept continually under full command of the helm. The temperature, 25°,

and the continual freezing of the spray, as it broke over the vessel, combined with the slippery state of the decks from the sleet that fell and the ice which formed from the salt water, made all working of ropes and sails not only disagreeable, but almost impracticable; so that I was not sorry when the wind moderated.

"By 4 a. m., of the 29th, it fell almost to a calm; but a heavy swell, the thick fog and mist remaining, precluded our seeing any distance before us; and thus we imperceptibly drew too near the land-pack off the western shore, so that, a little after Mr. Abernethy had come on deck, in the morning watch, I was called up, as he said that the ship was drifting rapidly into the ice. Soon on deck, I found that there was no question on that score; for even now the loose pieces were all round us, and the swell was rapidly lifting the ship further into the pack, whilst the roar of waters, surging on the vast floe-pieces, gave us no very pleasant idea of what would be our fate if we were fairly entrapped in this frightful chaos. The whale-boat was lowered, and a feeble effort made to get her head off shore; but still in we went, plunging and surging amongst the crushing masses.

"While I was anxiously watching the screw, upon which all our hopes were now centered, I ordered the boiler, which had been under repair, and was partly disconnected, to be rapidly secured, the fires to be lighted, and to get up the steam; in the meantime the tackles were got up for hoisting out our long-boat, and every preparation was made for the worst. Each man on board knew he was working for his life, and each toiled with his utmost might; ice-anchors were laid out, and hawsers got upon either bow and quarter, to keep the ship from driving further in; but two hours must elapse before we could expect the use of the engine. Eager were the inquiries when *will* the steam be up? and wood and blubber were heaped in the furnace to get up the greatest heat we could command.

"At last the engineer reported all was ready; and then, warping the ship's head round to seaward, we screwed ahead with great caution; and at last found ourselves, through God's providence and mercy, relieved from our difficulties. It was a time of the deepest suspense to me; the lives of my men and the success of our expedition depended entirely on the safety of the screw; and thus I watched, with intense anxiety, the pieces of ice, as we drifted slowly past them; and, passing the word to the engineer, 'East her,' 'Stop her,' till the huge masses dropped into the wake, we succeeded, with much difficulty, in saving the screw from any serious damage, though the edges of the fan were burnished bright from abrasion against the ice."

McClure describes some experiences of the breaking up of the ice July 24, 1851, off Point Armstrong.

"The wind, veering to the westward during the night," says he, "set large bodies of ice into the water we occupied, which was rapidly filling. To prevent being forced on shore, we were obliged, at 8 a. m. of the 25th, to run into the pack, where we drifted, according to the tide, about a mile and a half from the beach; but, during the twenty-four hours, made about two miles and a half to the northeast, from which, when taken with the quantity of drift-wood that is thickly strewed along the beach, I am of opinion that on this side of the strait there is a slight current to the northeast, while upon the opposite one it sets to the southward, upon which there is scarcely any wood, and our progress, while similarly situated, was in a southern direction. We continued drifting in the pack, without meeting any obstruction, until 10 a. m. of the 1st of August, when a sudden and most unexpected motion of the ice swept us with much velocity to the northeast, toward a low point, off which were several shoals, having many heavy pieces of grounded ice upon them, toward which we were directly setting, decreasing the soundings from twenty-four to nine and a half fathoms. Destruction was apparently not far distant, when, most opportunely, the ice eased a little, and, a fresh wind coming from the land, sail was immediately made, which, assisted by warps, enabled the ship to be forced ahead about two hundred yards, which shot us clear of the ice and the point into sixteen and a half fathoms, in which water we rounded the shoals; the ice then again closed, and the ship became fixed until the 14th of August, when the fog, which since the previous day had been very dense, cleared, and disclosed open water about half a mile from the vessel, with the ice loose about her."

The difficulty of clearing away large masses of ice was, to some extent, obviated by blasting. "Previously to quitting the floe," says McClure, "I was desirous of trying what effect blasting would have upon such a mass. A jar containing thirty-six pounds of powder was let down twelve feet into the water near the center; the average thickness was eleven feet, and its diameter four hundred yards. The result was most satisfactory, rending it in every direction, so that with ease we could effect a passage through any part of it."

McClure also tells of one of those dramatic meetings in the ice-fields that often occur. Says he:

"While walking near the ship, in conversation with the first lieutenant upon the subject of digging a grave for a man who had just died, and discussing how

we could cut a grave in the ground whilst it was so hardly frozen (a subject naturally sad and depressing), we perceived a figure walking rapidly towards us from the rough ice at the entrance of the bay. From his pace and gestures we both naturally supposed, at first, that he was some one of our party pursued by a bear; but, as we approached him, doubts arose as to who it could be. He was certainly unlike any of our men; but, recollecting that it was possible some one might be trying a new travelling-dress preparatory to the departure of our sledges, and certain that no one else was near, we continued to advance.

"When within about two hundred yards of us, the strange figure threw up his arms, and made gesticulations resembling those used by Esquimaux, besides shouting at the top of his voice words which, from the wind and intense excitement of the moment, sounded like a wild screech: and this brought us both fairly to a standstill. The stranger came quietly on, and we saw that his face was as black as ebony (made black by the lamp smoke in his tent); and really, at the moment, we might be pardoned for wondering whether he was a denizen of this or the other world; as it was, we gallantly stood our ground, and, had the skies fallen upon us, we could hardly have been more astonished than when the dark-faced stranger called out, 'I'm Lieutenant Pim, late of the Herald, and now in the Resolute. Captain Kellett is in her, at Dealy Island.'

"To rush at and seize him by the hand was the first impulse, for the heart was too full for the tongue to speak. The announcement of relief being close at hand, when none was supposed to be even within the Arctic Circle, was too sudden, unexpected, and joyous, for our minds to comprehend it at once. The news flew with lightning rapidity; the ship was all in commotion; the sick, forgetful of their maladies, leaped from their hammocks; the artificers dropped their tools, and the lower deck was cleared of men; for they all rushed for the hatchway, to be assured that a stranger was actually among them, and that his tale was true. Despondency fled the ship, and Lieut. Pim received a welcome—pure, hearty, and grateful—that he will surely remember and cherish to the end of his day."

Dr. Rae's journal gives details of the finding of Franklin's relics, heretofore described. Under date of March 20, 1854, he wrote:

"We were met by a very intelligent Esquimo, driving a dog-sledge laden with musk-ox beef. This man at once consented to accompany us two days' journey, and in a few minutes had deposited his load on the snow, and was ready to join us. Having explained to him my object, he said that the road

by which he had come was the best for us; and, having lightened the men's sledges, we travelled with more facility. We were now joined by another of the natives, who had been absent seal-hunting yesterday, but, being anxious to see us, had visited our snow-house early this morning, and then followed up our track. This man was very communicative, and, on putting to him the usual questions as to his having seen 'white man' before, or any ships or boats, he replied in the negative; but said that a party of 'Kabloomans' had died of starvation a long distance to the west of where we then were, and beyond a large river. He stated that he did not know the exact place, that he never had been there, and that he could not accompany us so far. The substance of the information then and subsequently obtained from various sources was to the following effect:

"In the spring, four winters past (1850), while some Esquimo families were killing seals near the north shore of a large island, named in Arrowsmith's charts King William's Land, about forty white men were seen travelling in company southward over the ice, and dragging a boat and sledges with them. They were passing along the west shore of the above-named island. None of the party could speak the Esquimo language so well as to be understood, but by signs the natives were led to believe that the ship or ships had been crushed by ice, and that they were now going to where they expected to find deer to shoot. From the appearance of the men—all of whom, with the exception of an officer, were hauling on the drag-ropes of the sledge, and looked thin—they were then supposed to be getting short of provisions; and they purchased a small seal, or piece of seal, from the natives. The officer was described as being a tall, stout, middle-aged man. When their day's journey terminated, they pitched tents to rest in.

"At a later date the same season, but previous to the disruption of the ice, the corpses of some thirty persons and some graves were discovered on the continent.

The following is a list of the articles obtained from the Esquimos by Dr. Rae:

One silver table-fork—crest, an animal's head with wings extended above; three silver table-forks—crest, a bird with wings extended; one silver table-spoon—crest, with initials "F. R. M. C." (Captain Crozier, Terror); one silver table-spoon and one fork—crest, bird with laurel-branch in mouth, motto, *"Spero meliora;"* one silver table-spoon, one tea-spoon, and one dessert-fork—crest, a fish's head looking upwards, with laurel-branches on each side; one

silver table-fork—initials, "H. D. S. G." (Harry D. S. Goodsir, assistant-surgeon, Erebus); one silver table-fork—initials, "A. M'D." (Alexander M'Donald, assistant-surgeon, Terror); one silver table-fork—initials, "G. A. M." (Gillies A. Macbean, second master, Terror); one silver table-fork—initials, "J. T.;" one silver dessert-spoon—initials, "J. S. P." (John S. Peddie, surgeon, Erebus); a round silver plate, engraved, "Sir John Franklin, K. C. B.;" a star or order, with motto, *"Nec aspera terrent,* G. R. III. MDCCCXV."

One of the most pathetic stories of the Arctic belongs to this period. It is the death of Lieut. Bellot, a young Frenchman attached to the Prince Albert, one of the Franklin relief ships, under Capt. Kennedy. He was attempting to lead a party to join Sir Edward Belcher's squadron, near Cape Beecher.

Bellot left Beechey Island Aug. 12, 1853, with a party. They encountered a belt of water before reaching the mainland, and Bellot sought to cross it alone in a boat. But the ice separated him from his companions and he perished. One of his comrades, named Johnson, tells of building an ice-house, and continues:

"Mr. Bellot sat for half an hour in conversation with us, talking on the danger of our position. I told him I was not afraid, and that the American expedition was driven up and down this channel by the ice. He replied, 'I know they were; and when the Lord protects us, not a hair of our heads shall be touched.'

"I then asked Mr. Bellot what time it was. He said, 'About quarter past eight a. m.' (Thursday, the 18th), and then lashed up his books, and said he would go and see how the ice was driving. He had only been gone about four minutes, when I went round the same hummock under which we were sheltered to look at him, but could not see him; and, on returning to our shelter, saw his stick on the opposite side of a crack, about five fathoms wide, and the ice all breaking up. I then called out 'Mr. Bellot!' but no answer—(at this time blowing very heavy). After this, I again searched round, but could see nothing of him.

"I believe that when he got from the shelter the wind blew him into the crack, and, his south-wester being tied down, he could not rise. Finding there was no hope of again seeing Lieut. Bellot, I said to Hook, 'I'm not afraid: I know the Lord will always sustain us.' We commenced travelling, to try to get to Cape De Haven, or Port Phillips; and, when we got within two miles of Cape De Haven, could not get on shore; and returned for this side, endeavor-

ing to get to the southward, as the ice was driving to the northward. We were that night and the following day in coming across, and came into the land on the eastern shore a long way to the northward of the place where we were driven off. We got into the land at what Lieut. Bellot told us was Point Hogarth.

"In drifting up the straits towards the Polar Sea, we saw an iceberg lying close to the shore, and found it on the ground. We succeeded in getting on it, and remained for six hours. I said to David Hook, 'Don't be afraid; we must make a boat of a piece of ice.' Accordingly, we got on to a piece passing, and I had a paddle belonging to the India-rubber boat. By this piece of drift-ice we managed to reach the shore, and then proceeded to where the accident happened. Reached it on Friday. Could not find our shipmates, or any provisions. Went on for Cape Bowden, and reached it on Friday night."

When the Esquimos heard of Bellot's death, they shed tears, and cried "Poor Bellot! poor Bellot!" Two years before, he had seen an Esquimo dragging himself over the ice, with a broken leg. He called the carpenter and gave him directions to make a wooden leg for the poor fellow, and to teach him to walk with it.

CHAPTER XVII.

KANE, THE MODEL OF PEARY.

"An Arctic day and an Arctic night," says Dr. Kane in one part of his book, "age a man more rapidly and harshly than a year anywhere else in all this weary world." Dr. Kane was not yet forty years of age when he went to the north. When he returned he was a physical wreck, with barely strength to pen the volume that still lives in the libraries of explorers.

The expedition under the command of Dr. Kane sailed from New York on the 30th day of May, 1853. It consisted of eighteen chosen men, besides the commander, embarked in a small brig of one hundred and forty-four tons burden, named the Advance. Dr. Kane's predetermined course was to enter the strait discovered the previous year by Captain Inglefield, at the top of Baffin's Bay, and to push as far northward through it as practicable. He was to cross Melville Bay in the wake of the vast icebergs with which the sea is there strewn. These huge frozen masses are often driven one way by a deep current, while the floes are drifted in another by winds and surface-streams, disruptions being thus necessarily caused in the vast ice-fields. The doctor's tactics were to dodge about in the rear of these floating ice-mountains, holding upon them whenever adverse winds were troublesome, and pressing forward whenever an opportunity occurred.

Dr. Kane's plan was based upon the probably extension of the land-masses of Greenland to the far north—a fact at that time not verified by travel, but sustained by the analogies of physical geography.

With this plan in mind, Dr. Kane pushed the ship Advance to Melville Bay, where the first great difficulties were encountered. By arduous work, however, they reached Littleton Island, and deposited some stores. A long battle with ice and storm followed, lasting through the month of August, and the ship finally reached Cape George Russell, where the ship was prepared for a long imprisonment.

Many interesting things were met with during the winter that followed.

Temperature readings were made hourly, and the lowest found was in February, when seventy degrees Fahrenheit was reached. At this temperature chloroform froze and even chloric ether, never before known to freeze, became congealed. The ship was then in latitude 78.

By March, 1854, the party showed heavy signs of their privation. Scurvy spots mottled their faces, and many could do no hard work. Dr. Kane himself, never a very strong man, was much exhausted. But he never relaxed in his determination to push north. He organized a party of men, placed himself at their head, and planned to force a way over bergs and mountains. First, however, he sent out an advance expedition with supplies—and this party came to grief, owing to a heavy gale, accompanied by a temperature of 57 degrees below. Three members of the party managed to force their way back, and on hearing their story Dr. Kane sought to go to the rescue. He started out with nine men.

His own story of the trip contains this:

"We had been nearly eighteen hours out without water or food, when a new hope cheered us. I think it was Hans, our Esquimaux hunter, who thought he saw a broad sledge-track. The drift had nearly effaced it, and we were some of us doubtful at first whether it was not one those accidental rifts which the gales make in the surface-snow. But, as we traced it on to the deep snow among the hummocks, we were led to footsteps; and, following these with religious care, we at last came in sight of a small American flag fluttering from a hummock, and lower down a little Masonic banner hanging from a tent-pole hardly above the drift. It was the camp of our disabled comrades; we reached it after an unbroken march of twenty-one hours.

"The little tent was nearly covered. I was not among the first to come up; but when I reached the tent-curtain, the men were standing in silent file on each side of it. With more kindness and delicacy of feeling than is often supposed to belong to sailors, but which is almost characteristic, they intimated their wish that I should go in alone. As I crawled in, and, coming upon the darkness, heard before me the burst of welcome gladness that came from the four poor fellows stretched on their backs, and then for the first time the cheer outside, my weakness and my gratitude together almost overcame me. 'They had expected me; they were sure I would come!' "

This is Dr. Kane's account of the retreat of the party, now consisting of fifteen men:

"It was fortunate indeed that we were not inexperienced in sledging over

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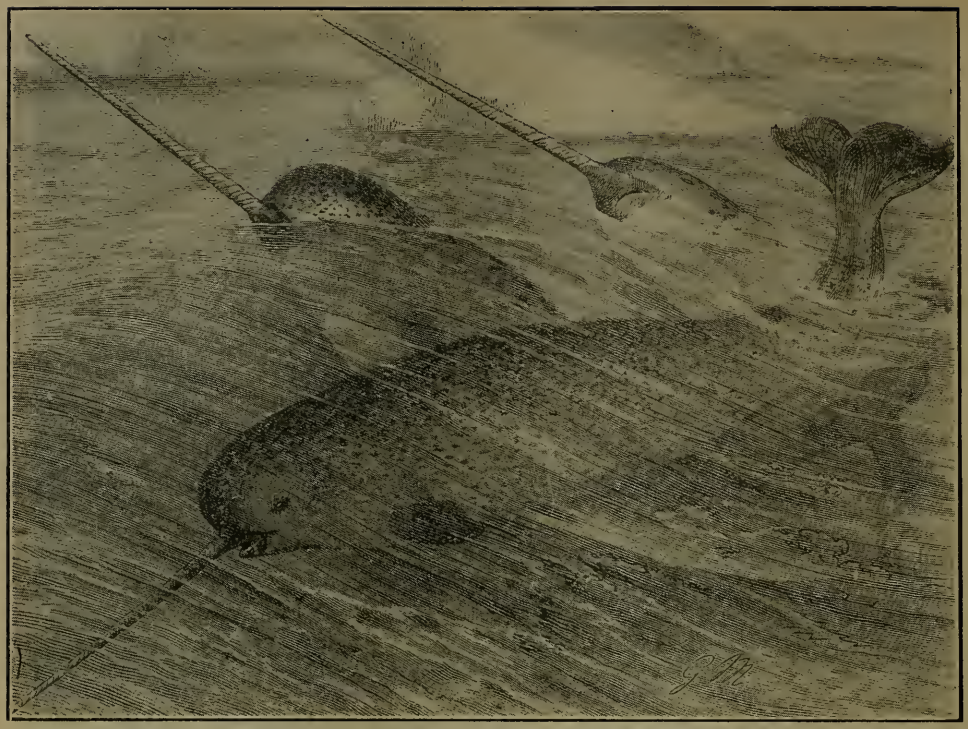
JOHN R. BRADLEY IN THE CABIN OF THE "BRADLEY," IN NORTH GREENLAND, WHEN HE CARRIED DR. COOK NORTH.



THE ARCTIC NORWHALS.

GREENLAND SEAL CAPTURED BY PEARY.

the ice. A great part of our track lay among a succession of hummocks; some of them extending in long lines fifteen and twenty feet high, and so uniformly steep that we had to turn them by a considerable deviation from our direct course; others that we forced our way through, far above our heads in height, lying in parallel ridges with the space between too narrow for the seldge to be lowered into it safely, and yet not wide enough for the runners to cross without the aid of ropes to stay them. These spaces, too, were generally choked with light snow, hiding the openings between the ice-fragments. They were fearful traps to disengage a limb from; for every man knew that a fracture, or a sprain even, would cost him his life. Besides all this, the sledge was top-heavy with its load; the maimed men could not bear to be lashed down tight enough to secure them against falling off. Notwithstanding our caution in rejecting every superfluous burden, the weight, including bags and tent, was eleven hundred pounds.

"And yet our march for the first six hours was very cheering. We made, by vigorous pulls and lifts, nearly a mile an hour, and reached the new floes before we were absolutely weary. Our sledge sustained the trial admirably. Ohlsen, restored by hope, walked steadily at the leading-belt of the sledge-lines; and I began to feel certain of reaching our half-way station of the day before, where we had left our tent. But we were still nine miles from it, when, almost without premonition, we all became aware of an alarming failure of our energies.

"I was of course familiar with the benumbed and almost lethargic sensation of extreme cold; and once, when exposed for some hours in the mid-winter of Baffin's Bay, I had experienced symptoms which I compared to the diffused paralysis of the electro-galvanic shock. But I had treated the *sleepy comfort* of freezing as something like the embellishment of romance. I had evidence now to the contrary.

"Bonsall and Morton, two of our stoutest men, came to me, begging permission to sleep; but Dr. Kane refused the permission, knowing that to sleep where they then were meant death. At last, however, they reached a point of temporary safety, and slept; and, says Dr. Kane, 'when I awoke, my long beard was a mass of ice, frozen fast to the buffalo-skin. Godfrey had to cut me out with his jack-knife.' "

On proceeding, they came to a huge mass of ice-hummocks. Says the explorer:

"It required desperate efforts to work our way over it—literally des-

perate, for our strength failed us anew, and we began to lose our self-control. We could not abstain any longer from eating snow; our mouths swelled, and some of us became speechless. Happily, the day was warmed by a clear sunshine, and the thermometer rose to —4° in the shade; otherwise we must have frozen.

"Our halts multiplied, and we fell half-sleeping on the snow. I could not prevent it. Strange to say, it refreshed us. I ventured upon the experiment myself, making Riley wake me at the end of three minutes; and I felt so much benefited by it that I timed the men in the same way. They sat on the runners of the sledge, fell asleep instantly, and were forced to wakefulness when their three minutes were out.

"By eight in the evening we emerged from the floes. The sight of the Pinnacly Berg revived us. Brandy, an invaluable resource in emergency, had already been served out in table-spoonful doses. We now took a longer rest, and a last but stouter dram, and reached the brig at one p. m., we believe, without a halt.

"I say *we believe*; and here, perhaps, is the most decided proof of our sufferings; we were quite delirious, and had ceased to entertain a sane apprehension of the circumstances about us. We moved on like men in a dream. Our foot-marks, seen afterwards, showed that we had steered a bee-line for the brig. It must have been by a sort of instinct, for it left no impress on the memory. Bonsall was sent staggering ahead, and reached the brig, God knows how, for he had fallen repeatedly at the track-lines; but he delivered, with punctilious accuracy, the messages I had sent by him to Dr. Hayes. I though myself the soundest of all; for I went through all the formula of sanity, and can recall the muttering delirium of my comrades when we got back into the cabin of our brig. Yet I have been told since of some speeches, and some orders, too, of mine, which I should have remembered for their absurdity, if my mind had retained its balance."

Undaunted by such experiences as this Dr. Kane started in April on a sledge expedition to the north, seeking, he says, "for an outlet to the mysterious channels beyond (Greenland)." He was so weak by that time that he was at one time delirious for a week, and nearly died. Yet he achieved several remarkable discoveries. One was "Tennyson's Monument," a solitary column, or "minaret tower" of greenstone, the length of whose shaft was four hundred and eighty feet. It rose on a pedestal, itself two hundred and eighty feet high, as sharply finished as if it had been cast for the Place

Vendome. But by far the most remarkable feature in the inland Greenland sea is the so-called "Great Glacier of Humboldt." Of this glacier Dr. Kane gives a description which constitutes one of the pieces of word-painting that fired Peary's imagination. "This line of cliff rose in solid glassy wall three hundred feet above the water level, with an unknown, unfathomable depth below it; and its curved face, sixty miles in length, from Cape Agassiz to Cape Forbes, vanished into unknown space at not more than a single day's railroad-travel from the pole. The interior with which it communicated, and from which it issued, was an unsurveyed *mer de glace,* an ice-ocean, to the eye of boundless dimensions.

"It was in full sight—the mighty crystal bridge which connects the two continents of America and Greenland. I say continents, for Greenland, however insulated it may ultimately prove to be, is in mass strictly continental. Its least possible axis, measured from Cape Farewell to the line of this glacier, in the neighborhood of the eightieth parallel, gives a length of more than twelve hundred miles,—not materially less than that of Australia from its northern to its southern cape.

"Imagine now the center of such a continent, occupied through nearly its whole extent by a deep unbroken sea of ice, that gathers perennial increase from the water-shed of vast snow-covered mountains, and all the precipitations of the atmosphere upon its own surface. Imagine this moving onward like a great glacial river, seeking outlets at every fiord and valley, rolling icy cataracts into the Atlantic and Greenland seas; and, having at last reached the northern limit of the land that has borne it up, pouring out a mighty frozen torrent into unknown Arctic space."

In the summer of 1854 Dr. Kane began his return to civilization. It was a journey full of peril, but never of despair, though by the end of the trip the men were starving, human wrecks. As they crossed Melville Bay death stared them in the face. They were going largely on foot, and making a mile a day.

Dr. Kane's description of his rescue is typical of the thrilling descriptive passages in his book. He and his men were on the coast, awaiting they knew not what.

"Just then," says the book, "a familiar sound came to us over the water. We had often listened to the screeching of the gulls, or the bark of the fox, and mistaken it for the 'Huk' of the Esquimaux; but this had about it an inflection not to be mistaken, for it died away in the familiar cadence of a 'haloo.'

" 'Listen Petersen! Oars—men? What is it?' and he listened quietly at first, and then trembling, said, in a half-whisper, 'Dannemarkers!' "

It was a vessel from Uppernavik, one of the large Greenland ports, and in a few days the explorers reached this point from which their return to America was easy.

A meeting with Dr. Kane after the latter's rescue, is described graphically by his brother. After telling of a terrible gale in Baffin's Bay, he said:

"After this gale we had little or no more trouble with the ice; one or two trifling detentions of a few days brought us to the open water. We had drifted so far to the south that Lievely was nearer than Upernavik, and Captain Hartstein determined to put in there. We had a heavy gale the night after we left the ice; but so glad were we all to get clear of it, that I heard no complaints about rough weather. It cleared away beautifully towards morning, and we were all on the deck, admiring the clear water, and the fantastic shapes of the water-washed icebergs. All hands were in high spirits; the gale had blown in the right direction, and in a few hours we should be in Lievely. The rocks of its land-locked harbor were already in sight. We were discussing our news by anticipation, when the man in the crow's nest cried out, 'A brig in the harbor!' and the next minute, before we had time to congratulate each other on the chance of sending letters home, that she had hoisted American colors—a delicate compliment, we thought, on the part of our friends, the Danes.

"I believe our captain was about to return it, when, to our surprise, she hoisted another flag, the veritable one which had gone out with the Advance, bearing the name of Mr. Henry Grinnell. At the same moment, two boats were seen rounding the point, and pulling towards us. Did they contain our lost friends? Yes; the sailors had settled that. 'Those are Yankees, sir; no Danes ever feathered their oars that way,' said an old whaler to me.

"For those who had friends among the missing party, the few minutes that followed were of bitter anxiety; for the men in the boats were long-bearded and weather-beaten; they had strange, wild costumes; there was no possibility of recognition. Dr. Kane, standing upright in the stern of the first boat, with his spy-glass slung around his neck, was the first identified; then the big form of Mr. Brooks; in another moment all hands of them were on board of us.

"It was curious to watch the effects of the excitement in different people,—the intense quietude of some, the boisterous delight of others; how one man would become intensely loquacious, another would do nothing but laugh, and a third would creep away to some out-of-the-way corner, as if he were afraid

of showing how he felt. How hungry they all were for news, and how eagerly they tore open the home letters; most of them, poor fellows, had pleasant tidings, and all were prepared to make the best of bad ones. We were in the harbor, with a fleet of kayaks dancing in welcome around and behind us, before the greetings were half ended, for they repeated themselves over and over again.

"Our old friend, Mr. Olrik, was with the new comers, and as happy as the rest. His hospitality, when we reached the shore, was absolutely boundless; and his house and table were always at our service. Altogether, I never passed three more delightful days than those last days at Lievely. Balls every night; feasts and junketings every day; and, pleasantest of all, those dear home-like tea-tables, with shining tea-urn and clear, white sugar, round which we sat, waiting for the water to boil, and talking of Russia and the Czar, and the world outside the Circle; while Mrs. Olrik would look up from her worsted-work, and the children pressed round me to see the horses and dogs I was drawing for them. It was enough to make one forget his red flannel shirt and rough Arctic rig."

CHAPTER XVIII.

THE GREELY EXPEDITION.

One of the great tragedies of the Arctic grew out of the expedition of Adolphus W. Greely, then a lieutenant of the United States army, and now a major-general, in 1881-4. All the horrors of which the frozen north is capable befell this party. Misfortune was their lot, and death overtook a majority of the travelers. Yet there is no page in the history of Arctic exploits more thrilling, for it showed, just as war does, the stuff of which American soldiers are made. The fortitude of Greely and his followers and the pluck with which they pursued the search for knowledge in the face of starvation and sickness, has served as an example to every polar explorer in later years.

Lieut. Greely, after gallant service in the civil war, had given his attention to the work of the signal corps, of which he was an officer. He had become an ardent student of the Arctic, and was eager to venture into the north. In 1880 came the opportunity, when congress appropriated funds for the establishment of polar stations,—half-way spots by which it was hoped the pole could be reached by easy stages. Greely's enthusiasm pushed him to the front, at this time, and to his delight he was given the command of the expedition. On the steamer Proteus he and his party sailed from St. John's N. F., July 7, 1881, and made a quick trip up Baffin's Bay, and into the regions where previous explorers had "staked out their claims." The destination was almost reached when a solid ice-pack delayed the vessel in the southwest part of Lady Franklin Bay. This ice, however, moved to the eastward in time to send the ship on her way after a week, and Discovery Harbor was attained. At this point Lieut. Greely established his settlement, and named it Fort Conger, a name destined to be surrounded with suggestions of tragedy for all time. After the party had built a substantial house, and landed large stores of provisions and coal the Proteus returned to America, leaving the explorers to their investigations.

From August 1, 1882, for a year, the scientific work proceeded without misadventure. Enough was accomplished in this period to give the trip fame

on this account alone. There was then no thought of the bitter future. Besides performing the studies in meteorology, astronomy, and magnetism, which was the prime object of the trip, there was time for trips of a purely exploratory nature, and these were notably successful. Greely had the satisfaction of having one of his men (one who never lived to see his native land again) achieve the farthest north record. Of this Greely's official dispatches had this to say:

"For the first time in three centuries England yields the honor of the furthest north. Lieutenant Lockwood and Sergeant Brainerd, May 13, reached Lockwood Island, latitude 83° 24′ north, longitude 44° 5′ west. They saw from 2,000 feet elevation no land north, or northwest, but to northeast Greenland, Cape Robert Lincoln, latitude 83° 35′, longitude 38°. Lieutenant Lockwood was turned back in 1883 by open water on North Greenland shore, the party barely escaping drift into the Polar Ocean. Dr. Pavy, in 1882, who followed Markham's route, was adrift one day in the Polar Ocean north of Cape Joseph Henry, and escaped to land, abandoning nearly everything.

"In 1882 I made a spring and later summer trip into the interior of Grinnell Land, discovering Lake Hazen, some sixty by ten miles in extent, which fed by ice-caps of North Grinnell Land, drains Ruggles River and Weyprecht Fiord into Conybeare Bay and Archer Fiord. From the summit of Mount Arthur, 5,000 feet, the contour of land west of the Conger Mountains convinced me that Grinnell Land travels directly south from Lieutenant Aldrich's furthest in 1876.

"In 1883 Lieutenant Lockwood and Sergeant Brainerd succeeded in crossing Grinnell Land, and ninety miles from Beatrix Bay, the head of Archer Fiord, struck the head of a fiord from the western sea, temporarily named by Lockwood the Greely Fiord. From the center of the fiord, in latitude 80° 30′, longitude 78° 30′ Lieutenant Lockwood saw the northern shore termination, some twenty miles west, the southern shore extending some fifty miles, with Cape Lockwood some seventy miles distant—apparently a separate land from Grinnell Land. Have named the new land Arthur Land. Lieutenant Lockwood followed, going and returning, on an ice cape averaging about one hundred and fifty feet perpendicular face. It follows that the Grinnell Land interior is ice-capped, with a belt of country some sixty miles wide between the northern and southern ice-capes.

"In March, 1884, Sergeant Long, while hunting from the northwest side

of Mount Carey to Hayes Sound, saw on the northern coast three capes westward of the furthest seen by Nares in 1876. The sound extends some twenty miles further west than is shown by the English chart, but is possibly shut in by land which showed up across the western end.

"The two years' station duties, observations, all explorations, and the retreat to Cape Sabine, were accomplished without loss of life, disease, serious accident, or even severe frostbites."

Although the attainment of the latitude Lockwood reached meant an advance of only four miles toward the pole, it lives in history with the records of Kane, who reached latitude 80 degrees, 30 minutes in 1854; of Hall, who attained 82 degrees, 16 minutes in 1871, and Nares, who five years later got as far as 83 degrees, 30 minutes. These, of course, do not take into the account the later marks of Peary and of Nansen.

The life of the explorers there in the cold and lonely land was not unpleasant at that time. They were under military discipline, and their habits were prescribed with an especial view to their health and comfort. There was plenty of good food then, and everything seemed to point to a triumphant return.

Then came the chapters of misfortune. Greely had orders from the War Department based upon the theory that relief would be sent him, and he would be taken off from Fort Conger. These orders, however, did not cover the possibility of ships being unable to get through to the party. These were the orders:

"In case no vessel reaches the permanent station in 1882, a vessel sent in 1883 will remain in Smith's Sound until there is danger of closing by ice, and on leaving will land all her supplies and a party at Littleton Island, which party will be prepared for a winter's stay, and will be instructed to send sledge parties up the east side of Grinnell Land to meet this party. If not visited in 1882, Lieutenant Greely will abandon his station not later than September 1, 1883, and will retreat southward by boat, following closely the east coast of Grinnell Land until the relieving vessel is met or Littleton Island is reached."

It is the part of army men to obey orders; and on August 9, 1883, Greely and his men left Fort Conger, and journeyed to Cape Sabine by boats. This trip took two months, and was attended by great privation. At one time the party was adrift for thirty days on an ice-floe, but they were driven upon Cape Sabine, and made camp there. Now they learned of the destruction of

the good old Proteus, which had been hastening to their relief. They had no ship to take them home. They faced a long winter, with only the food —a comparatively scant supply—brought from Fort Conger.

At this point the health of the men began to weaken. Rations were shortened up. Four ounces of meat was allowed each man a day. Game swam, or flew before them, but could not be secured, there by the open sea, without boats,—and the boats had been lost. Starvation stared the party in the face.

Some of the feelings of the men in this situation are gleaned from the diary of Lieut. Lockwood, the officer who planted the flag farthest north.

On September 26 of that year he wrote: "The northwest gale at this hour (about 4:30 p. m.) still continues. We are apparently immovable just now; are probably packed and jammed in ice somewhat. God knows what the end of all this will be. I see nothing but starvation and death. The spirits of the party, however, are remarkably good."

Later entries in Lockwood's journal are these:

"October 21. Tonight we have coffee. We are now in our hut; but it is not yet finished, and is cold and uncomfortable. Our constant talk is about something to eat, and the different dishes we have enjoyed. How often our thoughts turn toward home and the dear ones there.

"We have found out some scraps of news from slips of papers wrapped around the lemons.

"December 3. Breakfast this morning consisted of chocolate and a few scraps of butter—no bread, for I ate all my bread last night. Many of us eat all our bread at night, and many try to save and manipulate their dole of food in a dozen ways to make the mite of food seem more filling. I have saved from yesterday some scraps of sealskin * * * I ate them hair and all.

"December 24. Tonight is Christmas eve, and my thoughts are turned toward home. God preserve me to see this day next year, and enjoy it at home with those I love."

But God willed it otherwise. The man who so prayed to be once more with his loved ones succumbed April 9, of the following year. His mind had weakened, and his diary began to contain pitiful entries in which he described dainties of the table.

"Memorandum: Roast turkey," he would write while he was dining off the frozen foot of a fox. With a constitution shattered by lack of food, and with his reason all but gone, he died.

One of the most tragic incidents of this part of the terrible story was the attempt of Corporal Joseph Elison and three other men to reach a cache of meat that had been buried by Sir George Nares, an English explorer, in 1875. The goal was only thirty miles from the Greely camp, yet its attainment under the conditions and with the men half dead, proved disastrous. The meat was not found, and on the return journey Elison froze his hands, feet and face. His comrades stopped to do for him what they could and would have lost their own lives had not one of them, Sergeant Rice, walked the thirty miles back to the camp to take word of Elison's plight. He went the distance without food, and when he staggered into camp he was scarcely able to gasp out what had befallen. As soon as he made it known, however, Sergeant Brainerd and a party were sent to rescue Elison. Sergeant Brainerd's diary, preserved in Greely's report to the government, tells the story as follows:

"The darkness was intense when we started, and Christiansen (Brainerd's sole companion) and myself floundered about among the hummocks and through the deep snow for some time without advancing very far. We stumbled frequently, and often fell on the rubble, receiving serious bruises. The monotony of the tramp was sometimes broken by my companion, who uttered half suppressed oaths whenever he fell over a projecting point of ice. About noon we reached the bay and found our three brave comrades huddled together in the one sleeping bag in a semi-frozen state. Elison was still alive and somewhat better than when Rice had left him. Elison repeatedly implored me to kill him that the others might be saved. I tried to cheer him with the assurance that we would all escape from these hospitable shores and return to our homes together, but, shaking his head sadly, he would repeat in a low, pleading tone, 'Please kill me, wont you.' "

Brainerd did what he could to cheer the sufferer, and camped near by to await the morning. He returned early to make a second attempt at rescue. He says:

"The poor fellows had not slept in my absence and when I reached them they were shivering with the cold. It is almost surprising that they survived the cold of last night. They were in a half-starved, half-frozen condition, and the merciless storm had been incessantly beating down on their unprotected covering of buffalo-skin.

"I stopped for a moment to contemplate the scene. Nothing could be more utterly desolate, dreary and forsaken than the spot on which these brave

fellows were lying. Without shelter except such as was afforded by a small tent-fly, their bag was lying on a narrow terrace only a few feet above the ice-foot and the tide, where it was fully exposed to the fury of the winds."

In spite of the exposure and hunger, Elison did not die—not then. Some months later, after a brave fight for life, he succumbed.

As a sharp contrast with the courage shown by these men was the case of Private Charles Henry, who was proved to have stolen food from the general stores. When first caught, he promised to reform, and for a long time Greely restrained the talk of harsh measures. At last, when it was seen Henry could not withstand the temptation, and his stealings were endangering the lives of the others, Greely ordered him shot, and this was done. The commander of the expedition made a formal report of the incident to the war department, and his action was fully upheld.

It is almost impossible not to feel pity for Henry, in spite of the despicable nature of his act. He was starving. Yet in the far north, even more strikingly than elsewhere, the law of the survival of the fittest prevails,—and Henry was not one of the fit.

Rather turn again to the diary of brave Brainerd, who was one of the few who got back to America. He tells with great pathos of the joy caused by the killing of a bear. Says he:

"What words are adequate to express the rejoicing in our little party tonight? There are none. * * * Life had seemed something in the misty distance, which was beyond our power to retain or control. Life now seems ten times sweeter than at any former period of our existence."

This same Brainerd wrote, on June 19 of that year:

"The party is now yielding slowly but surely to the inevitable approach of death."

But even then relief was at hand. Providence did not mean that brave Greely should perish.

CHAPTER XIX.

RESCUE OF THE GREELY PARTY.

Two days after Brainerd sent up that desperate cry a party of American seamen, sent by the government, saved the perishing members of Greely's ill-fated expedition.

The rescuers were headed by Winfield Scott Schley, then a captain in the navy; years later a hero of the Spanish-American war. Schley had been chosen to find Greely and bring him home, if alive. The commander headed a squadron of three vessels, one of which, the Alert, was furnished by the British government. These three boats sailed north in April, 1884, and in June passed into the polar sea, anchoring finally at Cape Sabine. Parties were sent out from this point over the ice to seek traces of the lost.

On June 21, after the searchers had been busy for three days, a seaman rushed up to the ship and delivered to Commander Schley a faded paper. It was one of several records left by Greely where it might be found by searchers. Under date of October, 1883, it read: "My party is now permanently in camp on the west side of a small neck of land which connects the wrecked cache cove, and the one to its west, distant about equally from Cape Sabine and Cocked Hat Island. All well." The last words had a terrible irony in view of what Schley and his men found. They proceeded with all speed to the point described, and there found the Greely party in a terrible plight. It is vividly described in Schley's official report, from which the following is taken:

"Lieutenant Greely was found in his sleeping bag, his body inclined forward and head resting upon his left hand. The Book of Common Prayer was open and held in his right hand. He appeared to be reading prayers to Private Connell, whose condition was most desperate and critical. He was cold to the waist; all sensation of hunger gone; was speechless and almost breathless; his eyes were fixed and glassy. Indeed, his weakness was such that it was with difficulty he swallowed the stimulants given him by Drs.

Green and Ames; his jaws had dropped, his heart was barely pulsating, and his body temperature very low.

"This tender scene of a helpless, almost famished, officer consoling a dying companion, was in itself one that brought tears to the eyes of the strongest and stoutest of those who stood about them on the merciful errand of relief.

"Sergeants Brainerd and Fredericks and Hospital-Steward Bierderbick were extremely weak and hardly able to stand; they were no longer able to venture away from their camp to seek food, nor to prepare the simple diet of boiled seal-skin, nor to collect lichens, nor to catch shrimps, upon which they had to depend to a great extent to sustain life. Their faces, hands, and limbs were swollen to such an extent that they could not be recognized. This indicated that the entire party had but a short lease of life—probably not more than forty-eight hours at most. This fact was recognized by them all, and had come to them from their experience during that long and desolate winter in watching their dying companions, as one after another passed away from among them forever.

"Poor Sergeant Elison was found in his sleeping bag, where he had lain helpless and hopeless for months, with hands and feet frozen off. Strapped to one of the stumps was found a spoon, which some companion had secured there to enable him to feed himself. His physical condition otherwise appeared to be the best of any of the survivors, and this may be attributed to the fact that each of his companions had doled out to him from their small allowance of food something to help him, on account of his complete helplessness to add anything to his own by hunting about the rocks for lichens or shrimps. He suffered no waste of strength by exertion incident thereto. This care of Elison was such as only brave and generous men, suffering with each other under the most desperate circumstances, could think of.

"Sergeant Long was very much reduced, though in somewhat better condition than some of the others. His office of hunter for the starving party had made it necessary to increase slightly his pittance of food to maintain his strength, that he might continue the battle for food and life to the helpless. In his case, however, the effect of this continued effort had told its story in his wasted form. Shorter and shorter journeys were made in good weather, while in the frequent bad weather of that region his strength was so much impaired that when the joyful signal whistle was heard he had only enough left to stagger out to the rocks overlooking the water to see if the signal had proceeded from ships in sight. His first visit was a bitter disappointment,

as he saw nothing. A second visit, fifteen minutes later, brought him within fifty yards of the *Bear's* steam-cutter and in view of the relief ships coming around Cape Sabine. When the steam-cutter ran into the beach where Long was seen he rolled down the ice-covered cliff and was taken into the cutter. He informed Lieutenant Colwell that the location of the camp was just over the cliff.

"In the case of Sergeant Elison the medical officers were fearful from the first that his chances of life were very small. As soon as proper food was available and the digestive functions should be re-established fully, the healthful round of blood circulation would begin its distribution of new life to the injured parts, and inflammation would naturally occur. If Elison's strength should increase more rapidly than the inflammation, amputation of the injured parts would perhaps save his life. Several days after his rescue, June 28, Dr. Green reported that Elison was threatened with congestion of the brain. The symptoms increased rapidly until the poor fellow lost his reason. At Godhaven his condition was so critical that the surgeon of the expedition, after consultation, determined to amputate both feet above the ankle as the only chance of life left the sufferer. Disease, however, triumphed, and amid the bleak scenes that had surrounded him for three years in his heroic sacrifice, and within the desolate solitude of that region of everlasting ice and snow, surrounded by his sorrowing comrades, he passed away about 3 a. m. of July 7, three days after the amputation.

"Lieutenant Greely was physically the weakest, but mentally the most vigorous of his party. He had lain in his sleeping bag for weeks on account of his gradually failing strength. He was unable to stand alone for any length of time, and was almost helpless except in a sitting posture; all pangs of hunger had ceased; his appearance was wild; his hair was long and unkempt; his face and hands were covered with sooty black dirt; his body was scantily covered with worn-out clothes; his form was wasted, his joints were swollen, and his eyes were sunken.

"His first inquiry was if they were not Englishmen, but when he was told that we were his own countrymen, he paused for a moment as if reflecting, then said, 'And I am glad to see you.'

"The condition of his camp was in keeping with the scene inside the tent, desperate and desolate; the bleak barrenness of the spot, over which the wild Arctic bird would not fly, the row of graves on a little ridge, one hundred feet away, with the protruding heads and feet of those lately buried, a sad but

silent witness to the daily increasing weakness of the little band of survivors; the deserted winter quarters in the hollow below, with its broken wall invaded by the water from the melting snow and ice above it; the dead bodies of two companions stretched on the ice-foot that remained; the wretched apology for cooking utensils improvised by them in their sore distress, hardly deserving the name; the scattered and worn-out clothes and sleeping bags of the dead; the absence of all food save a few cupfuls of boiled seal-skin scraps; the wild and weird scene of snow, ice, and glaciers overlooking and overhanging this desolate camp, completed a picture as startling as it was impressive. I hope never again in my life to look upon such wretchedness and such destitution. The picture was more startling and more deeply pathetic than I had ever dreamed could be possible. In beholding it I stood for a moment almost unmanned, and then realized that if the expedition had demonstrated any one thing more than another it was that an hour had its value to at least one of that party. Stouter hearts than mine felt full of sorrow. Eyes that had not wept for years were moistened with tears in the solemnity of that precious hour in the lives of that heroic little band of sufferers, until this moment so hopeless and helpless.

"In preparing the bodies of the dead for transportation in alcohol to St. John's, it was found that six of them—Lieutenant Kislingbury, Sergeants Jewell and Ralston, Privates Whistler, Henry, and Ellis—had been cut, and the fleshy parts removed to a greater or less extent. All other bodies were found intact. When the bodies of the dead were exposed in preparing them the identification was found complete. Some of them could be recognized by aid of a picture taken with us from home; others, whose features had decayed, were identified by other characteristics. I am therefore satisfied that no mistake was made in this important matter, which so impressed us from the beginning."

The ships reached St. John's, N. F., July 17. From that point Schley telegraphed the Secretary of the Navy of his success, and told other details of the voyage as follows:

"The channel between Cape Sabine and Littleton Island did not close, on account of violent gales, all winter, so that 240 rations at the latter point could not be reached. All of Greely's records and all the instruments brought by him from Fort Conger are recovered and are on board. From Hare Island to Smith's Sound I had a constant and furious struggle with ice in impassable floes. The solid barriers were overcome by watchfulness and patience. No opportunity to advance a mile escaped me, and for several hundred miles the

ships were forced to ram their way from lead to lead, through ice varying in thickness from three to six feet, and when rafted much greater.

"The *Thetis* and the *Bear* reached Cape York, June 18, after a passage of twenty-one days in Melville Bay, and two advance ships of a Dundee whaling fleet, and continued to Cape Sabine. Returning seven days later, we fell in with seven others of this fleet off Wostenholme Island, and announced Greely's rescue to them, that they might not be delayed from their fishing grounds nor be tempted into the dangerous Smith's Sound in view of the reward of $25,000 offered by Congress. Returning across Melville Bay we fall in with the *Alert* and *Loch Garry* off Devil's Thumb, struggling through the ice. Commander Coffin did admirably to get along so far with the transport so early in the season before the opening had occurred. Lieutenant Emory, with the *Bear*, has supported me throughout with great skillfulness and unflinching readiness in accomplishing the great duty of relieving Lieutenant Greely. The Greely party are very much improved since the rescue, but were critical in the extreme when found and for several days after. Forty-eight hours' delay in reaching them would have been fatal to all now living. The season north is late and the coolest for years. Smith's Sound was not open when I left Cape Sabine. The winter about Melville Bay was the most severe for twenty years. This great result is entirely due to the unwearied energy of yourself and the Secretary of War in fitting out this expedition for the work it has the honor of accomplishing.

"W. S. SCHLEY, Commander."

The return voyage consumed, all told, almost six weeks. On August 1 the squadron arrived in Portsmouth harbor with six living and twelve dead members of the Greely party on board. Warships were drawn up to give a welcome, and the yards were manned, and bands played. Then, in the cabin of Schley's ship, Lieut. Greely was reunited with his wife and his mother. On the following Monday there was a great demonstration on land. A parade of all the naval forces available was held in the streets of Portsmouth, and as the men in blue passed in all their strength, the shattered, haggard survivors looked on from the balcony of a hotel.

One of the most interesting features of Peary's pole-finding expedition was the discovery of relics of the Greely party. The finder was Prof. Donald McMillan.

He told of wearing army coats and picking up scraps of letters and messages of love that were lying around the ground in perfect condition after almost

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THE "BRADLEY" LANDING SUPPLIES FOR DR. COOK'S POLAR DASH.

LIEUTENANT SHACKLETON'S EXPLORING PARTY.

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COMMANDER PEARY AND ESKIMO DOGS ON THE "ROOSEVELT."

thirty years; of finding letters—veritable messages of the dead—and leaves from books that had carried words of love and solicitation to the doomed explorers from relatives far away.

He also came upon remnants of Hall's camp and a cairn left by Lockwood and Brainerd.

"While I was at Cape Sheridan," he said, "I wanted to make several trips out into the desolate country to see what I could learn about the geology of the territory and the habits, customs and religion of the people. On one of my first trips I took a sledge and Eskimos and started, skirting the east coast of Grant Land and Grinnell Land. I slowly made my way down to Fort Conger, about sixty-five miles from the Roosevelt, and ran upon the last camp of the Greely expedition of 1881-1884.

"Here I found relics, all of which were in the same condition as when they were discarded by the ill-fated members of that expedition. I found coffee, hominy, canned rhubarb, canned potatoes, breakfast food and all sorts of supplies. They were just as good as ever, and I practically subsisted on them all the time I was there.

"General Greely's military overcoat, with the buttons on it, was about the first thing I discovered. I wore the coat, and while I stayed there I presume I must have had on at one time or another the clothing of all the men in the expedition. On the ground I also found the trunk that had been carried by Sergeant David L. Brainard. It was as good as new and I used it as a shelter from the winds.

"Here were records that had been made of the caches of provisions which had been stored along the route and showed that vast quantities of wood had been left there when the men started south to Cape Sabine, where seventeen of the twenty-five members perished.

"The men had been taken to Fort Conger by the Proteus and had been told to await her arrival the next year. During the interim the steamship tried to get through, but was crushed in the ice.

"Orders had been issued to the party that if the relief ship did not arrive the party was to make its way to the south and reach Cape Sabine. When the Proteus failed to arrive the party started.

"The men were told to discard all baggage except nine pounds, and in order to lighten their loads to that extent these goods, stores and personal belongings were left behind. It was these that I had found after a lapse of almost thirty years. Nothing had been destroyed. Everything was in an excellent state of preservation. Those members of the party who did not perish at Sabine were

rescued by Commodore (afterward Rear Admiral) Winfield S. Schley on his relief expedition sent out for the purpose of rescue.

"Fluttering about the camp was a slip of paper that had been taken from the flyleaf of a notebook. It was a voice from the dead. Written as the introduction to a speech at a banquet that the expedition had evidently arranged to kill the monotony of the long winter, the words were in the nature of a chaffing of the various members of the party. The author little knew at the time that he penciled his words that they would be found almost a generation afterward, the simple story of a tragedy of the Arctic.

"Here I also found other papers and magazines. Carefully placed between the pages of a magazine were several photographic plates that had been taken by George W. Rice, who was the official photographer of the expedition. The magazine was still readable, despite the fact that it had been the plaything of the elements there for twenty-eight years. The plates, however, were ruined, and I was unable to discover to just what extent the expedition had penetrated into the Arctic.

"One of the treasures concealed by the leaves of the magazine was a photograph of General Greely. The features were still distinct. One of the relics was the fly leaf of a book. It had written upon it: 'Lieutenant Frederick Kisslingbury. To my dear father, from his affectionate son, Harry Kisslingbury. May God be with you and return you safely to us.'

"The fly leaf had been torn from a textbook that had evidently been passed from one student to another. The names of several persons, evidently students, had been written, but a pencil mark had been drawn through them. The first name at the top of the page was Henry Satreau. Underneath was Victor Cloutier, Assumption College. These had been scratched out and under them written 'Harry Kisslingbury, Fort Custer, Mont., now at Assumption College, Sandwich, Ontario, Jan. 15, 1881.'

"The fate of Kisslingbury is tragic. He had become estranged from General Greely at Fort Conger and resigned his position in the army. He ran for the shore to board the Proteus, intending to return to America, but just as he reached there he saw the smoke of the steamer in the distance. He had arrived too late.

"Kisslingbury returned to camp, did not ask for reinstatement, and lived with the expedition as a private citizen. He was among those who perished later.

"Another of Kisslingbury's possessions which I found was a temperance hymn book on the fly leaf of which was written: 'To Lieutenant Kisslingbury,

U. S. A., from his old friend and well wisher, the author, George W. Clark, Detroit, Mich., 1861.' Lying in the stores was an ocarina, a musical instrument, which was still good. Carved on it rudely with a knife was the latitude at which Fort Conger had been established.

"Stickpins and other articles of jewelry I found scattered around. It was surprising to find the stores in such excellent condition. It only goes to show the wonderful preservative qualities of the Arctic climate. Coffee I made often from the abandoned Greely stores. One of the most striking relics I found here, and one that showed the proclivities of the owner, was a record of all the horse trotting events of the time in America. It had been written in the owner's hand, and embodied a description and record of all the trotters and trotting marks in the history of the turf.

"It seemed that I was to be fortunate in discovering the abandoned camps of previous expeditions. I went farther a little later and came across the camp that had been established by Commodore Hall in 1881. This party had been brought north by the United States steamship Polaris. Like the Greely steamer, the Polaris was also crushed in the ice at Littleton Island.

"Here I found a wooden house, 16 feet by 35, which had been erected as a winter quarters. The house was still standing.

"After the Polaris had been crushed, nineteen of the party took to the ice cakes and tried to drift to safety. They were picked up by the Tigress off Newfoundland after they had floated to the coast of Labrador, not a hundred miles from here. The other members were rescued by the Ravenscrag of Dundee, Scotland. I found all the ropes, sails and clothing that had been abandoned in most excellent shape. The sails were like new.

"On another sledging trip I ran across the headquarters of Sir George Nares and Markham, who made an expedition in 1875 and 1876. I found crockery, coal bags, wood and cartridges, some of which were loaded.

"A peculiar thing about my discovery here was that I ran across a hand push cart that this expedition used to carry their supplies from the ship to the camp. The tracks of the cart still remained in the sand as sharply defined as when they were first made. I took photographs of these tracks and have the plates now.

"The strangest part of all this Arctic work is the way the health of the men is benefited. Instead of going into a regular course of athletic training, there is a system of preparing a man for the dash by hunting in the moonlight and sledging. It is only a question of time when the men become so hardened and acclimated that they are in perfect physical condition for the work."

CHAPTER XX.

NANSEN, THE MODERN VIKING.

Fridtjof Nansen, subject of the king of Norway, descendant of the vikings who braved the perils of ice and storm in early ages, surpassed Greely's "farthest north," and established a record which it remained for Peary to beat.

There have been few polar explorers of greater courage and physical equipment for the hardships of the Arctic than Nansen. Of powerful frame and dauntless bravery, he is a mighty hunter, a man of tremendous determination, and shrewd in the ways of the wilderness. Had it not been given to Peary and Cook to find the pole in 1909, it may well be believed that Nansen would have reached it in a few years.

The first great exploit for which Nansen is famous is the crossing of Greenland, which meant the traversing of the immense glacier which covers the whole central part of the island, the scaling of enormous ice-mountains, and the slaying of fierce wild beasts, lest he himself be slain. The feat was accomplished in the summer of 1888, five men accompanying Nansen, and making part of the journey by sledges, which they hauled themselves, as they had no dogs. The route led over great snow-wastes, never before trod by human foot, and up mountains, some of which were 9,000 feet high. Part of the way led over water to cross which it was necessary for the party to drag a boat along. Frequently the thermometer fell 40 below zero; once to 49 below. This journey, a distance of about 800 miles, was accomplished in ninety days. On his return Nansen found himself a hero. He arrived in Copenhagen May 21, 1889, was attended by a demonstration remarkably similar to that accorded Dr. Cook when the latter returned from the Arctic. Immense crowds met Nansen at the dock, and although royalty in person did not accord him the same honors that fell to Cook, he was lionized in every way scientific bodies could devise. During the summer he visited all the European capitals, and his personality became as well known as that of any famous man on earth.

The natural result of this was that when, a year or two later, Nansen conceived the ambition to reach the north pole, he received enthusiastic support.

He had a startling theory he desired to prove. This was that in a ship built stanchly enough to endure any amount of ice-pressure, he could drift across the top of the earth, and thus claim the distinction of being first in that latitude. He based his idea on the experience of the steamer Jeannette, which was abandoned north of the New Siberia Island in June, 1881, and pieces of which were recovered on the shore of West Greenland.

Nansen said: "It struck me that if objects from a ship could drift this way, a ship, too, might go the same route, provided she was strong enough to withstand the pressure of the ice."

The theory did not meet with unanimous support from other explorers, but Nansen was encouraged to keep on, and in November, 1890, the ship Fram was christened in Norway. The Fram, which is still in service, is perhaps the strongest boat ever built. Her dimensions are: Length of keel, 102, and water line, 113 feet. Breadth at water line, 34 feet; depth of hold, 17 feet. The total thickness of the ship's sides is 24 to 28 inches, braced by powerful beams of wood and iron, and all the material used in the construction is the toughest and most durable that could be procured from any part of the world.

As showing the enthusiasm aroused by the project, the following list of contributions for it is given:

Appropriation by the Government of Norway, about	$75,500
The King's private purse and individuals	28,500
Collections by a committee	6,100
Dr. Nansen's contribution	5,000
London Geographical Society	2,000
A private gentleman of Riga (not named)	1,750
Interest account	2,700
Total	$121,550

The Fram left Christiana Fjord, Norway, June 23, 1893, with a crew of fourteen men, and provisions for two years. It sailed to Siberia, where Nansen hoped to strike the current that apparently took the Jeannette west. In August the ship gained the open sea and drifted to latitude 79; but later the cantankerous current started the other way, and carried the Fram southeast to latitude 77. There she became frozen in, and subject to an enormous pressure of ice. This, however, only served to bring out the strength of the vessel,

which was specially constructed so the ice, instead of crushing her, would slide along her sides.

In March of that year, after the party had endured the longest polar night ever seen by man—owing to their long stay above the 70th parallel,—Nansen decided on a sledge journey. He had concluded the drift project was too uncertain. The greatest risks attended this venture, and Nansen determined to make it himself, with only one companion, a man named Johansen. On March 3 the sun appeared, and eleven days later the two started out. The trip was one of the most trying any explorer has suffered, but it was also one of the most triumphant, for it was by this means Nansen achieved his "farthest north"—86 degrees, 14 minutes, north latitude. The best previous record was that of the Greely party. Nansen reached to within 225 geographical miles of the north pole.

Nansen writes: "In order to investigate the state of the ice, and the possibility of advance, I went further north on ski (slender snow-shoes that resemble sled runners) but could discern no likely way. From the highest hummock I could find, I saw only packed and piled up ice as far as the horizon. Here, as during our whole journey, we saw no sign of land in any direction. The ice appeared to drift before the wind without being stopped by mainland or islands. If it were like this in the direction of Franz Josef Land, we might have difficulty enough getting there, and the ice grew so bad that I thought it unadvisable to continue our journey any further toward the north."

The loneliness of the trip was somewhat relieved by the hunting of game, in which the two had many thrilling experiences. One of the most notable of these was an adventure which Nansen describes as follows:

"We were just about to cross a channel on the ice in our kayaks. This was generally accomplished by tying the two kayaks together on the ice, then placing them on the water, and after creeping with the dogs out onto the decks, paddling across. Suddenly I heard a noise behind me, and turning saw Johansen on his back with a bear over him, he holding the bear by the throat. I caught at my gun which lay on the fore-deck of my kayak; but at the same moment the boat slid into the water, and the gun with it. By exerting all my strength I hauled the heavy laden kayak up again, but while doing so I heard Johansen quietly remark, 'You must hurry up if you don't want to be too late.' At last I got the gun out of the case; and as I turned round with it cocked, the bear was just in front of me. In the hurry of the moment I had cocked the right barrel, which was loaded with shot; but the charge took effect behind the

ear, and the bear fell down dead between us. The only wound that Johansen received was a slight scratch on the back of one hand, and we went on our way well laden with fresh bear meat.

"The bear must have followed our track like a cat, and, covered by the ice-blocks, have slunk up while we were clearing the ice from the lane and had our backs to him. We could see by the trail how it had crept over a small ridge just behind us under cover of a mound by Johansen's kayak. While the latter, without suspecting anything or looking round, went back and stooped down to pick up the hauling rope, he suddenly caught sight of an animal crouched up at the end of the kayak, but thought it was Suggen (the dog); and before he had time to realize that it was so big he received a cuff on the ear which made him see fireworks, and over he went on his back. * * * It was just as the bear was about to bite Johansen in the head that he uttered the memorable words, 'Look sharp!' * * * Johansen let go his hold on the bear and wiggled out, while the bear gave Suggen a cuff which made him howl lustily. Then Kaifas (the other dog) got a slap on the nose. Meanwhile Johansen had struggled to his feet and when I fired had got his gun, which was sticking out of the kayak hole."

After their long journey across the frozen seas, Nansen and Johansen reached land near the 81st parallel, only to become imprisoned in the ice. This forced them to winter many miles from the Fram. So hardy were they, however, that they passed the winter in perfect health. Immense quantities of game were near them, also, and they were able to get bear, walrus, at any time. There were also quantities of foxes, "which almost every night," Nansen declares, "constantly sat upon the roof of our hut, whence we could perpetually hear their gnawing of our frozen meat. These foxes were of both the white variety and the valuable dark-furred kind, and had we been so inclined we could easily have laid by a store of valuable furs. Our supply of ammunition, however, was not so large as to allow of our spending it upon them, for it seemed to me that bears were the smallest game that could give us any return for our cartridges.

"At last came the spring, with sunshine and birds. How well I remember that first evening, a few days before the sun had appeared above the horizon, when we suddenly saw a flock of little auks sail past us along the mountains to the north. It was like the first greeting from life and spring. Many followed in their train, and soon the mountains around us swarmed with these little

summer visitors of the north, which enlivened everything with their cheerful twittering."

May 19 the travelers started south again, and coming to water, they tried voyaging in their kayaks, with an improvised mast and sail. This proved an adventurous trip. Says Nansen:

"One day, when we had been sailing along the shore, we lay to in the evening to reconnoiter our farther way westward. In leaving the kayaks, we made them fast to the ice by a strong strap, which we thought was perfectly reliable. While we were a little way off on the top of a hummock, however, we discovered that our linked boats had broken from their moorings and were rapidly drifting away from the ice, carried along by the wind. All our provisions were on board, our whole outfit, our guns, and our ammunition. There we stood upon the ice, entirely without resource. Our only safely lay in reaching our kayaks, and I had no choice but to spring into the water and try to reach them by swimming. It was, however, a struggle for life, for the kayaks seemed to drift more rapidly before the wind than I could swim; the icy water gradually robbed my whole body of feeling, and it became more and more difficult to use my limbs. At length I reached the side of our craft; but it was only by summoning up my last energies that I finally succeeded in getting on board, and we were saved."

This remarkable journey was to have as its climax one of those meetings of men in a strange country which are dramatic incidents in the world's history. While cooking breakfast one day, and not in the least suspecting the presence of a white man within hundreds of miles, he heard a dog bark, looked up, and saw F. G. Jackson, an English explorer, who was studying Franz Joseph land. Nansen embarked on Jackson's steamer and returned home in August, 1896, to find himself the chief hero of Norway, and a man of redoubled fame in the rest of the world.

CHAPTER XXI.

TWO BALLOONISTS WHO FAILED.

The North Pole madness has so invaded the blood of mankind that almost every mode of transportation, short of ox-teams and railroad trains, has been thought of for reaching the goal. Even automobiles have been suggested, though laughed to scorn by those who have experienced the woe of hauling a sledge over an ice-hummock. It was this very difficulty of progress over land and sea that led two men of daring to consider an aerial trip. This, they argued, would necessarily avoid the delay and despair of combating ice-bergs and mountains and be a short, swift, easy route.

To these men the fact that aerial travel itself possesses perils sufficient to daunt most human beings was as nothing. They were enthusiasts in ballooning; and to the enthusiast in that sport it is said even racing through a thunderstorm a mile in air is a joy. But bold as they were, neither came within miles of reaching the north pole. One was a Swede, S. A. Andree; the other, Walter Wellman, an American.

Andree was an engineer in the patent office at Stockohlm. He had become an experienced aeronaut, though he had never "set the world on fire," and when he proposed crossing the Atlantic Ocean, from Africa to South America, there were many who approved the scheme—so long as they did not have to join the party. One who approved was Nordenskjold, a well known Arctic traveler, and he it was who gave Andree the idea of trying for the north pole. Andree at once began making definite plans, and securing the necessary money. In 1895 he obtained it, through the aid of King Oscar of Sweden. The sum of $36,000 was subscribed, of which the king himself gave $8,000. Andree passed the following winter in France, where a balloon was specially constructed for him. Following is a description of the craft, published just before the expedition got started:

"It is a double balloon, or rather a balloon in a balloon. The first or inner balloon is made of a specially made silk cloth of three folds and covered with a two-proof varnish. Over this, covering two-thirds of the balloon, comes a

cover of cloth highly saturated with oil. The object of the double balloon is that the air between the two balloons will guard against sudden changes of temperature, and also prevent snow and water from gathering on the varnished silk. From the oiled surface it will at once slide off, particularly when the balloon sways from side to side. Instead of the usual ventilator on the top of the balloon these are placed one on each side, as experience has shown that from this ventilator the greatest loss of gas is made. To support the net a heavy iron ring is placed under a wooden roof resembling what is known in polar language as 'Nunatak.' Below the balloon is placed an automatic ventilator opening at a pressure of 10 mm. and permits the escape of superfluous gas.

"A novelty is the broad girdle surrounding the balloon in its lower part. This is for the purpose of guarding against wind pressure. When the lower part of the balloon commences to be empty of gas, the wind makes a hollow in the balloon and the girdle will prevent this.

"The balloon has a diameter of 20.5 meters (one meter is 39.37 inches) and has a volume of 4,500 cubic meters. The gondola is made of wicker, round in form, covered with a roof with two sleeping-places, as there will always be a man on watch. The mattresses will serve as life-preservers in case of necessity, and the gondola has a slanting form to facilitate sliding along the ice if so near an approach to the earth is found necessary. The gondola is also provided with a trapdoor to empty the water if the balloon should take a 'dip.'

"M. Andree has devised an ingenius contrivance for directing the balloon. The efficacy of this device has been tested by a trip. It is composed of a rudder sail secured to the apex of the balloon and to the car by a rope, so that it can move freely, and a guide rope which can be adjusted to different positions for 180 degrees of the circumference of the ring which is secured to the car.

"The guiding is assisted by means of this guide rope, which is allowed to drag on the ground or in the water. The eyelets are intended to receive the hook of this guide rope. When the hook is attached to the central eyelet the balloon will move in the line of the wind, but by adjusting the guide rope to the other eyelets motion in other directions is obtained.

"The balloon carries 23,100 kegs of ballast, provisions for four and a half months, ammunition, a boat, heavy clothing, and every necessity that experience has shown is required."

Andree went to Spitzbergen, arriving there June 19, 1896. The balloon was then inflated, but this took so long that Andree deemed it too late in the season to start, so the expedition was delayed for another year. This change

of plan aroused the scoffers, and Andree's exploit became something of a by-word; but the explorer was undaunted, and in 1897 he again went to Spitzbergen. The inflation of the balloon was completed this time on June 22, and a few days were spent in making the great craft "seaworthy" in every way. It was given a name—the "Ornen," which is Swedish for eagle. Finally, on July 11 everything was ready. Andree wrote two messages of thanks, one to a Stockholm newspaper and the other to the King, and he and his two companions climbed in. The names of these companions were Nils Strindberg and Ferdinand Frankel.

Before the crowd of onlookers the balloonists shook hands with their friends and at 2:40 p. m. Andree gave the word, "Cast off." The monster balloon rose in the air, and sailed over the heads of the spectators, while the three men in the basket waved handkerchiefs and shouted last adieus.

And they were last adieus indeed. Those fast-dwindling forms, swaying beneath the great dark gas-bag against the sky, were never seen again. Whether they came down, with gas exhausted, in open water and were drowned, whether they crashed against a berg and so died; or whether they landed in some ice-wilderness and starved,—these are mysteries which iron-hearted nature has thus far refused to reveal.

Wellman's plans were of a different kind. He did not propose to trust to air-currents to waft him across the polar sea, as did Andree, but designed an air craft of the nature of a dirigible balloon, which theoretically could be turned at will.

The bold adventure was backed by a Chicago newspaper, and passed years in making his preparations. Interest of explorers and aeronauts everywhere was aroused, and doubt and confidence were divided. The doubters said that the fickle air would not do what it was claimed it would; the supporters of Wellman urge that, if air ships could travel hours with ease, why not days?

In September, 1907, Wellman made his first start from Spitzbergen. He started boldly and with good hope; but it proved that the machinery of his craft was too delicate; and after the balloon had proceeded a short distance, something went wrong with the guide-rope, which, like Andree, Wellman had trailing after the airship. The balloon crashed against the side of an ice mountain, and was badly disabled. Fortunately none on board was injured, and all returned to Europe in safety. Of course, however, no further attempt was made that year. Again, in August, 1909, Wellman got his ship and his men together and prepared to start, but this, too, ended in failure.

CHAPTER XXII.

LIFE AMONG THE ESKIMOS.

Out of all the disappointments, privations and successes of polar exploration has come one great result that, whatever may be said of the value to mankind of scientific discovery, will always be of real human interest. This is the study of the Eskimos, the natives of the frozen zone. Had man never sought to reach the north pole these people, so primitive in many ways, might have remained in savagery. As it is, they have been largely Christianized; and they have been partly civilized. The best tribute to the Eskimos as regards their mastery of the region in which they live is that no white man who has traveled there has succeeded in his activities, or even in clinging to life itself, without imitating the Eskimos. Both Peary and Cook say their discoveries were made by actually as those swarthy people do. It becomes, then, of the utmost interest, in this age of the world, to learn the mode of life of the straight haired men and women who so resemble our American Indians, and yet differ from them in so many traits.

Nearly all the great explorers have given graphic accounts of Eskimo life. Dr. Kabe described his first meeting with the natives as follows:

"As we gathered on the deck, they rose upon the more elevated fragments of the land-ice, standing singly and conspicuously, like the figures in a tableau of the opera, and distributing themselves around almost in a half-circle. They were vociferating as if to attract our attention, or, perhaps, only to give vent to their surprise; but I could make nothing out of their cries, except 'Hoah, ha, ha!' and 'Ka, kaah! ka, kaah!' repeated over and over again.

"There was light enough for me to see that they brandished no weapons, and were only tossing their heads and arms about in violent gesticulations. A more unexcited inspection showed us, too, that their numbers were not as great, nor their size as Patagonian, as some of us had been disposed to fancy at first. In a word, I was satisfied that they were natives of the country; and, calling Petersen from his bunk to be my interpreter, I proceeded, unarmed, and waving my open hands, toward a stout figure, who made himself conspicuous,

and seemed to have a greater number near him than the rest. He evidently understood the movement; for he at once, like a brave fellow, leaped down upon the floe, and advanced to meet me fully half-way.

"He was nearly a head taller than myself, extremely powerful and well-built, with swarthy complexion, and black eyes. His dress was a hooded *capote* or jumper, of mixed white and blue fox-pelts, arranged with something of fancy; and booted trousers of white bear-skin, which, at the end of the foot, were made to terminate with the claws of the animal.

"I soon came to an understanding with this gallant diplomatist. Almost as soon as we commenced our parley, his companions, probably receiving signals from him, flocked in and surrounded us; but we had no difficulty in making them know, positively, that they must remain where they were, while Metek went with me on board the ship. This gave me the advantage of negotiating with an important hostage."

The Eskimos were taken aboard ship. Says Dr. Kane:

"They were lost in barbarous amaze at the new fuel,—too hard for blubber, too soft for fire-stone,—but they were content to believe it might cook as well as seal's fat. They borrowed from us an iron pot, and some melted water, and parboiled a couple of pieces of walrus-meat; but, the real *pièce de résistance,* some five pounds of head, they preferred to eat raw. Yet there was something of the *gourmet* in their mode of assorting their mouthfuls of beef and blubber. Slices of each, or rather strips, passed between the lips, either together or in strict alternation, and with a regularity of sequence that kept the molars well to their work.

"They did not eat all at once, but each man when and as often as the impulse prompted. Each slept after eating, his raw chunk lying beside him on the buffalo-skin; and, as he woke, the first act was to eat, and the next to sleep again. They did not lie down, but slumbered away in a sitting posture, with the head declined upon the breast, some of them snoring famously.

"In the morning they were anxious to go; but I had given orders to detain them for a parting interview with myself. It resulted in a treaty, brief in its terms, that it might be certainly remembered; and mutually beneficial, that it might possibly be kept. I tried to make them understand what a powerful Prospero they had had for a host, and how beneficent he would prove himself so long as they did his bidding. And, as an earnest of my favor, I bought all the walrus-meat they had to spare, and four of their dogs; enriching them, in return, with needles and beads, and a treasure of old cask-staves."

A brother of Dr. Kane, who was one of a relief party sent out in 1855, has this to say of the Eskimos:

"Improvidence is another trait of these 'fresh children of impulse.' We were at their village as late as the 19th of August. Yet, although the auks were flying round them in such quantities that one man could have been able to catch a thousand an hour, they had not enough prepared for winter to last two days. They were all disgustingly fat, and always eating,—perhaps an average ration of eighteen pounds per diem,—yet they had lost seven by starvation during the last winter, though relieved, as far as we could make it out, by the Dokto Kayens.

"They suffer dreadfully from cold, too; yet there is an abundance of excellent peat, which they might dig during the summer. They know its value as fuel, and are simply too lazy to stack it. The little auk, which forms their principal food, may be said also to be their only fuel. Indeed, it quite fills the place which the seal holds among the more southern Esquimaux. Their clothes are lined with its skins, they burn the fat, and, setting aside the livers and hearts, to be dried, and consumed as *bonbons* during the winter, they eat the meat and intestines cooked and raw, both cold and at blood heat.

"They are very hospitable; the minute we arrived, all hands began to catch birds and prepare them for us. Tearing off the skins with their teeth, they stripped the breasts to be cooked, and presented us with the juicy entrails and remaining portions to eat raw, and stay our appetites. The viands did not look inviting to us, who had witnessed their preparation; but they appeared so hurt at our refusing to eat, that we had to explain that it was not cooked but raw birds we wanted. This was satisfactory. They set out at once to catch some for us; and in a few moments three of them were on their way down to our boat loaded with birds."

Dr. Nansen, in recounting his crossing of Greenland, describes many domestic traits of the Eskimos with a touch of realism. He tells thus of entering the home of an Eskimo family:

"We had been at once invited to sit down upon some chests which stood by the skin-curtain at the entrance. These are the seats which are always put at the disposal of visitors, while the occupants have their places upon the long bench or couch which fills the back part of the tent. This couch is made of planks, is deep enough to give room for a body reclining at full length, and is as broad as the full length of the tent. It is covered with several layers of sealskin, and upon it the occupants spend their whole indoor life, men and

women alike, sitting often cross-legged as they work, and taking their meals, and rest and sleep.

"The tent itself is of a very peculiar construction. The framework consists of a high trestle, upon which a number of poles are laid, forming a semi-circle below and converging more or less to a point at the top. Over these poles a double layer of skins is stretched, the inner coat with the hair turned inward, and the outer generally consisting of the old coverings of boats and kayaks. The entrance is under the above-mentioned trestle, which is covered by the thin curtain of which I have just spoken. This particular tent housed four or five different families, each having their own particular partition marked off upon the common couch. Before every family stall a train-oil lamp was burning with a broad flame. These lamps are flat, semi-circular vessels of pot-stone, about a foot in length. The wick is made of dried moss, which is placed against one side of the lamp and continually fed with pieces of fresh blubber, which soon melt into oil. The lamps are in charge of the women, who have special sticks to manipulate the wicks with, to keep them both from smoking and burning too low. Great pots of the same stone hang above, and in them the Esquimaux cook all their food, which they do not eat raw. Strange to say, they use neither peat nor wood for cooking purposes, though such fuel is not difficult to procure. The lamps are kept burning night and day; they serve for both heating and lighting purposes, for Esquimaux do not sleep in the dark, like other people; and they also serve to maintain a permanent odor of train-oil which, as I have said, our European senses at first found not altogether attractive, but which we soon learned not only to tolerate, but to take pleasure in. * * *

"The man embraced a fat woman, and thereupon the pair with extreme complacency pointed to some younger individuals, the whole pantomime giving us to understand that the party together formed a family of husband, wife, and children. The man then proceeded to stroke his wife down the back, and to pinch her here and there, to show us how charming and delightful she was, and how fond he was of her, the process giving her at the same time evident satisfaction. Curiously enough, none of the men in this tent seemed to have more than one wife, though it is a common thing among the east coast Esquimaux for a man to keep two if he can afford them, though never more. As a rule the men are good to their wives, and a couple may even be seen to kiss each other at times, though the process is not carried out on European lines, but by a mutual rubbing of noses. Domestic strife is, however, not unknown, and it some-

times leads to violent scenes, the end of which generally is that the woman receives either a vigorous castigation or the blade of a knife in her arm or leg, after which the relation between the two becomes as cordial as ever, especially if the woman has children. * * *

"Their hands and feet are alike unusually small and well shaped. Their hair is absolutely black and quite straight, resembling horse hair. The men often tie it back from the forehead with a string of beads and leave it to fall down over the shoulders. Some who wear no such band have the hair cut above the forehead, or round the whole head, with the jawbone of a shark, as their superstitions will not allow them on any account to let iron come in contact with it. But, curiously enough a man who has begun to cut his hair in his youth must necessarily continue the practice all his life. The women gather their hair up from behind and tie it with a string of sealskin into a cone, which must stand as perpendicularly as possible. This convention is especially stringent in the case of young unmarried women, who, to obtain the desired result, tie their hair back from the forehead and temples so tightly that by degrees it gradually gives way, and they become bald at a very early age." * * *

The hospitality of this desolate coast is quite unbounded. A man will receive his worst enemy, and entertain him for months if circumstances throw him in his way. The nature of their surroundings and the wandering life which they lead have forced them to offer and accept universal hospitality, and the habit has gradually become a law among them.

Eskimo society has one great principle underlying it: Community of interest. If a hunter finds game and buries it under a stone, another hunter may come that way and take the meat without any protest being made. Says Astrup, who accompanied Peary on his first great journey: "The tribe forms a single family, and each member, without exception, consecrates the work of his life to the common good.

"It is extremely seldom that Esquimaux quarrel, and when a disagreement occurs it is a very tame affair. The parties do not talk loudly or call each other names, but simply separate. They are quiet and gentle people, and very much dislike anything in the way of disturbance or discord."

Another thing that may not be generally credited to these swarthy folk is that they are intelligent, and almost invariably truthful. Simple-hearted they of course are, so that by promises of beads and other ornaments explorers have been able to convince them of things that were not true; but it is the unanimous belief of most men who have lived among the north people that their

COOK AND HIS MEN PREPARING FOR THE NIGHT'S REST IN AN ARCTIC SNOWSTORM.

PASSAGE THROUGH THE ICE MADE BY DR. COOK'S ARCTIC SHIP.

PEARY ON WAY TO THE NORTH POLE.

morals and their domestic relations as regards the division of labor between man and woman include much that might well be copied by other nations.

The method of building an Eskimo snow-house is told by one of the explorers who learned the trick from the natives. He says:

"The process of constructing a snow-house goes on something in this way, varied, of course, by circumstances of time, place, and materials. First, a number of square blocks are cut out of any hard-drifted bank of snow you can meet with, adapted for the purpose; which, when cut, have precisely the appearance of blocks of salt sold in the donkey-carts in the streets of London. The dimensions we generally selected were two feet in length by fourteen inches in height, and nine inches in breadth. A layer of these blocks is laid on the ground nearly in the form of a square; and then another layer on this, cut so as to incline slightly inwards, and the corner blocks laid diagonally over those underneath, so as to cut off the angles. Other layers follow in the same way, until you have gradually a dome-shaped structure rising before you, out of which you have only to cut a small hole for a door, to find yourself within a very light, comfortable-looking bee-hive on a large scale, in which you can bid defiance to wind and weather. Any chinks between the blocks are filled up with loose snow with the hand from outside; as these are best detected from within, a man is usually sent in to drive a thin rod through the spot where he discovers a chink, which is immediately plastered over by some one from without, till the whole house is as air-tight as an egg."

The Eskimos are well cared for by the government of Denmark, and always have been as far back as 1851, Kennedy wrote. Speaking of Upernavik:

"It is one of that interesting group of little colonies with which the enterprise of the Danes has dotted the west coast of Greenland. Here, considerably within the Arctic Circle, we found a Christian community, not only living, but, after a fashion, thriving. We were informed by the governor that there were, even at this early period of the season, one thousand Danish tons of oil and blubber stored, from the produce of the summer fishery. There was likewise visible evidence in every direction of an abundance of venison, water-fowl, and eggs, as well as seals. The houses were built of wood, very small, and had a singularly amphibious look about them, from being covered with tar from top to bottom,—appearing, for all the world, like so many upturned herring-boats, ready, on any emergency, to take to the water.

"A party of the Esquimos, attached to the settlement, had come in with the produce of some hunting excursion in which they had been engaged; and I

was much struck with their intelligence, and their well-clad, comfortable, and healthy appearance. This, I learned, was in a great measure due to the benevolent interest of the Danish government in their behalf. There is not a station, I was given to understand, along the whole coast of Greenland, which has not its missionary and its schoolmaster for the instruction of the natives; and, judging from what we saw and learned at Upernavik, the Danish exchequer is not without material and substantial proofs of the gratitude of the poor *'Innuit.'* Thus instructed, cared for, and their energies disciplined and directed, the Esquimos of Greenland give employment to six ships annually, in carrying the produce of their hunts and fisheries to Denmark."

Eskimos are, of course, among the most skilful big-game hunters of the world.

They are especially wary in stalking the walrus. An Eskimo hunter will approach as near as possible on a sledge and then leave vehicle and dogs behind and continue on foot.

Describing what follows, Astrup (one of Peary's men) writes: "Soon there seems to be a singing and cracking in the ice; then there is a break into many pieces, and up through the opening thus formed a bearded walrus quietly and majestically lifts its large head and grinning face. You hear its deep breathing, which in the twilight of the forenoon seems to resemble a slow snoring, and you see its breath like a cloud of vapor, which in the very low temperature that prevails looks as white and shining as the steam from an engine. A moment afterward the animal slowly disappears in the deep. It is usually while the walrus is engaged in breaking the thin ice in order to form a breathing-hole that the Esquimo rushes to the attack, though sometimes, in spite of the cold, one is found that has crept upon the ice where it is strong enough to bear the weight."

Capt. Hall once harpooned a seal according to the Eskimo method. He was watched by a number of Innuits (natives) as he took his seat by a seal-hole, which is an excavation under the ice where the animal dwells below the frozen surface. Hall at length heard breathing and scratching at the spot. He jabbed his harpoon down and in a moment the line was jerked from his hand, but, "quick as a flash," he says, "I seized it again, or I would have lost my prize, as well as the harpoon and line. The sealers far and near saw that I was fast to a seal, and although I called to *Nu-ker-zhoo, 'kiete! kiete!'*—come here! come here!—there was no necessity for it, for before I uttered a word he and all the others were making their way to me. Had I caught a whale there could

not have been more surprised and happy souls than were these Innuits on finding I was really fast to a seal. Laughter, hilarity, joyous ringing voices abounded. Almost the last Innuit who arrived to congratulate me was my good friend *Ou-e-la,* accompanied by his dog, dragging a seal which he had just captured. Last of all came the young ladies, *Tuk-too* and *Now-yer,* with dogs and sledge, and a seal which *Ar-mou* had taken a little while before. All this time nobody had seen my seal, for it was flipping away down in salt water beneath the snow and ice, still fast to one end of my line while I held on to the other. *Nu-ker-zhoo,* with his *pelong* (long knife), then cut away the snow, two feet in depth, covering the seal-hole, and removing still more with my spear, he chiseled away the ice-lining just above the hole. Soon the seal came up to breathe, and then the death-blow was given to it by a thrust of the spindle of the spear directly into the thin skull. The prize was drawn forth—a larger seal than either *Ou-e-la's* or *Ar-mou's.* Again the air resounded with shouts and joyous laughter. It was the first case among them of a white man's success in harpooning."

Despite their skill in the hunt, the Esquimos often suffer from hunger. Capt. Tyson, who was with Capt. Hall on the Polaris, told of a visit to the hut of an Esquimo known as Hans, to see a sick boy. He says:

"The miserable group of children made me sad at heart. The mother was trying to pick a few scraps of 'tried-out' blubber out of their lamp, to give to the crying children. Augustina is almost as large as her mother, and is twelve or thirteen years old. She is naturally a fat, heavy-built girl, but she looks peaked enough now. Tobias is in her lap, or partly so, his head resting on her as she sits on the ground, with a skin drawn over her. She seemed to have a little scrap of something she was chewing on, though I could not see that she swallowed anything. The little girl, Succi, about four years old, was crying—a kind of chronic hunger whine—and I could just see the baby's head in the mother's hood, or capote. The babies have no clothing whatever, and are carried about in this hood, which hangs down the mother's back, like young kangaroos in the maternal pouch, only on the reversed side of the body. All I could do was to encourage them a little. I had nothing that I could give them to make them any more comfortable. I was glad, at least, to see that they had some oil left."

This same Capt. Tyson interestingly describes the capture of a whale:

Captain Tyson, who was with Captain Hall in the *Polaris* expedition, thus describes the killing of a whale, in which he participated:

"I once had, when I was boat-steerer, quite an adventure with a whale which was determined not to die. It was a large and valuable balleener. Soon after the boat was lowered we got alongside. As I rose to heave the harpoon it seemed, almost in an instant, that the whale had plunged down to the bottom of the bay; as the rope uncoiled and went over the gunwale it fairly smoked with the intense rapidity of the friction, and I had to order it 'doused' to prevent its taking fire. It came, too, within a hair-breadth of capsizing us. Fortunately, the line was over seventy fathoms long, and of the strongest kind. After she plunged we followed on, it taking all our strength to bring the boat near enough to keep the line slack. She stayed under water the first time so long that we thought she was dead and sunk. It was nearly an hour before she rose: and when she did, the jerk almost snapped our strong line, already weakened by the friction and unusual tension.

"As soon as she appeared she began to beat the water with her flukes, and swirled around so that it appeared impossible to get a lance into her, and, while I was endeavoring to do this, our line parted, and away she went, carrying the harpoon with her. We followed with all the speed we could force, and at last, after several hours' hard pull, came up with her. She seemed to know we were following, and several times disappeared, and then would come up to blow, perhaps half a mile off; but we were bound to have her. On and on she went, on and on we followed. The moon was shining, and the Arctic summer night was almost as light as day, and deep into the night we followed her. Down she went, for the sixth or seventh time, but fatigue was getting the better of her. She was weakening, while with all the fatigue our spirits, and strength, too, were kept up by the excitement. At last, when we had been nearly twenty-four hours on the chase, I got another harpoon in her. This seemed to madden her afresh. Another plunge, which had nearly carried us with her; but this time she did not stay down more than ten or twelve minutes. Up she came once more, the water all around covered with blood, and we knew she was done for. Three or four lances were hurled into her ponderous bulk, and at last our exertions were rewarded by seeing her roll over on her side. She was dead. We bent on another strong line, and soon towed her to a floe. But we found ourselves with our prize, a good nine miles from the ship. We could not, therefore, save the blubber, but we made a good haul of balleen, with which we loaded our boat to its utmost capacity, and then dragged her, with her heavy cargo, the whole distance over the ice to the ship, which is what I call a fair day's work."

CHAPTER XXIII.

SHACKELTON'S "FARTHEST SOUTH."

And now the South Pole is all there is left to discover. It scarcely can be doubted that in a few years the flag of some nation will be planted at the Antarctic axis of the earth. Already one man—an Englishman—has come within 100 miles of the goal. A little more grit, a little more food, and a little more luck—it will be reached.

Lieut. Ernest H. Shackleton is the man who holds the Antarctic record. He achieved it at the outset of the great year of 1909, and would have attained the pole itself had he not found it necessary to turn back to save his life and those of the men with him.

Shackleton left England in the ship Nimrod in July, 1907. He had already risked his life in the South Polar regions when a member of the party of Capt. Scott, and he had acquired a valuable amount of experience in fighting his way over the ice. On the trip of 1909 he was the leader, and he had the enthusiastic good wishes of all England, with the king and queen cheering him on. When departing on his voyage Shackelton was given a Union Jack—the British naval banner—and this flag, that has kindled the hearts of Britons for hundreds of years, he was to plant at the pole, or the nearest point thereto attainable. On presenting the flag the king said:

"May this Union Jack, which I entrust to your keeping, lead you safely to the South Pole."

Though Shackelton did not reach the southern axis of the globe, he did these things:

Reached latitude 88:23 south; longtitude 162. Traveled 1,708 statute miles within the Arctic circle.

Went 340 miles farther south than his predecessor and preceptor, Capt. Scott.

Found the South Magnetic Pole, declared to be of more value to science than the geographical pole.

Discovered 100 new mountain peaks.

Ascended Mount Erebus, the southernmost volcano of the world, 13,200 feet high, this feat being in the face of a terrific blizzard.

The expedition on leaving New Zealand sailed to a point from which sledge journeys would be favorable, and there split up into investigating parties, one of which, under Shackelton, went south; and the other, with Prof. Edworth Davis at its head, went northward. It was Shackelton's purpose to dash direct to the pole. For this attempt he had as an aid something new in the field of polar effort—automobile sledges. The good old dogs that had tried the souls—and saved the lives—of so many travelers in the ice realms, were discounted by gasoline. For what the sledges could not do, the explorers had ponies. These proved of chief value as food.

Lieut. Shackleton says in his description of his final dash toward the South Pole:

"The southern party, Adams, Marshall, Wild and I, with four ponies and a supporting party consisting of Sir Philip Brocklehurst and Messrs. Joyce, Marson, Armytage and Priestly, left Cape Royd on October 29, 1908. We left Hutpoint November 3 with ninety-one days' provisions. We were held up at White Island from November 5 for four days by a blizzard. The supporting party returned November 7.

"Owing to the bad light among the ice crevasses, Adams' pony was nearly lost. We reached November 13 the depot laid out in September in latitude 79:36, longitude 168 east. We took on the pony maize, and provisions previously left there and commenced reducing our daily rations. We traveled south along meridian 168 over a varying surface of high ridges and mounds of snow alternating with soft snow. The ponies often sank to their bellies. In latitude 81 we shot the pony, Chinaman, and made a depot for oil, biscuit and pony meat. The remainder of the pony meat we took on to eke out our dried rations.

"On November 26 we reached the Discovery expedition's southernmost latitude. The surface now was extremely soft with large undulations. The ponies were attacked with snow blindness. On November 28 the pony, Christ was shot. We made a depot in latitude 82:45, longitude 170. Pony Quan was shot on November 30.

"Steering south southeast, we now were approaching a high range of new mountains trending to the southeast. We found on December 2 a barrier that, influenced by great pressure and ridges of snow and ice, had turned into land. We discovered a glacier 120 miles long and approximately forty miles wide, running in a south southwesterly direction.

"We started on December 5 to ascend the glacier at latitude of 83:33, longitude 172. The glacier was badly crevassed as a result of the huge pressure. The surface on December 6 was so crevassed that it took a whole day to fight our way 600 yards.

"On December 7 the pony, Socks, breaking through a snow lid, disappeared in a crevasse of unknown depth. The singletree snapping we saved Wild and the sledge, which was badly damaged. The party was now hauling a weight of 250 pounds per man.

"The clouds disappearing on December 8 we discovered new mountain ranges trending south southwest. Moving up the glacier over the treacherous snow covering the crevasses, we frequently fell through but were saved by our harness and were pulled out with an Alpine rope. A second sledge was badly damaged by the knife-edge crevasses.

"Similar conditions obtained on our way up the glacier from December 18, when we reached an altitude of 6,800 feet. In latitude 85:10 we made a depot and left everything there but our food, instruments, and camp equipment, and reduced our rations to twenty ounces per man daily.

"We reached on December 26 a plateau after crossing ice falls at an altitude of 9,000 feet, thence rising gradually in long ridges to 10,500 feet. Finishing the relay work, we discarded our second sledge. There was a constant southerly blizzard, the wind drifting the snow, with a temperature ranging from 37 to 70 degrees of frost. We lost sight of the new mountains December 27. Finding the party weakening from the effects of a shortage of food and the rarified air and cold, I decided to risk making a depot on a plateau.

"We proceeded on January 4 with one tent, utilizing the poles of the second tent for guiding marks for our return. The surface became soft and the blizzard continued. For sixty hours during January 7, 8, and 9 a blizzard raged with 72 degrees of frost and the wind blowing seventy miles an hour. It was impossible to move. Members of the party were frequently frostbitten in their sleeping bags."

And then follows this laconic description of the discovery of "farthest south":

"We left camp on January 9 and reached latitude 88:23 longitude 16:32. This is the most southerly point ever reached. Here we hoisted the Union Jack presented to us by the queen. No mountains were visible. We saw a plain stretching to the south."

Continuing the story Shackleton says:

"We returned to pick up our depot on the plateau, guided by our outward tracks, for the flags attached to the tent poles had been blown away. The less violent blizzards blowing on our backs helped us to travel from twenty to twenty-nine miles daily. We reached the upper glacier depot January 19.

"The snow had been blown from the glacier surface, leaving a slippery blue ice. The descent was slow work in the heavy gale. The sledge was lowered by stages by an Alpine rope. On the morning of January 26 our food was finished. It was slow going. Sixteen miles were covered in twenty-two hours' march. The snow was two feet deep, concealing the crevasses. We reached the lower glacier depot in latitude 83:45 on the afternoon of January 27. There we obtained food, and proceeding, reached the Grisi depot, named after a dead pony, on February 2. There was no food remaining.

"The entire party were prostrated on February 4 and were unable to move. This lasted eight days, but helped by strong southerly blizzards we reached the Chinaman depot on February 13. The food had again run out."

By this time the situation so calmly recounted by Shackleton was somewhat alarming. Many men in a similar pinch would have considered it desperate. But these Britons, true to the tradition of their predecessors in braving polar hardships, pushed on.

"The blizzards continued, with fifty degrees of frost. We discarded everything except our camp outfit and geological specimens, and on February 20 reached the next depot, all our food being finished. Helped by a southerly blizzard which was accompanied by sixty-seven degrees of frost, we reached on February 23, the depot at Minna Bluff, which had been laid by the Joyce party in January.

"Here we received news from our ship. Marshall had a relapse and return of illness. We made a forced march of twenty-four miles February 26. Marshall was suffering greatly. On February 27 Marshall was unable to march. I left him in charge of Adams while Wild and I made a forced march to the ship for relief. I returned March 1 with a relief party and reached the ship at Hut Point March 4 in a blizzard.

"The total distance of the journey, including relays, was 172 statute miles. The time occupied was 126 days. The main result was a geological collection. We also made a complete meteorological record. We discovered eight mountain ranges and over 100 mountains. The geographical South Pole doubtless is situated on a plateau from 10,000 to 11,000 feet above sea level. Violent blizzards in latitude 88 show that if a 'polar calm' exists it must be in a small area or not coincident with the geographical pole."

Prof. Davis, of the northern party, started from Cape Royd October 5, 1908, and with two sledges discovered the South Magnetic Pole in latitude 72:25. He and his companions had experiences akin to Shackleton, though without the severe hardships.

Another feature of the expedition was a viewing of the south aurora borealis, or aurora australis, as it is sometimes called. This is described as brilliant throughout the winter, appearing most frequently in the eastern sky and seldom in the direction of the magnetic pole. The most striking form of the aurora was that of a parallel with draped curtains extending across the heavens, sometimes stationary and sometimes moving rapidly across the remarkable speed.

Shackleton's exploits filled England with pride, and were heralded, until two Americans found the North Pole, as among the greatest achievements of polar travel. When Shackleton cabled to his ruler the results of his journey the king cabled back as follows:

"I congratulate you and your comrades most warmly on the splendid result accomplished by your expedition, and in having hoisted the Union Jack presented by the queen within 111 miles of the South Pole, and the Union Jack on the South Magnetic Pole.

"I gladly assent to the new range of mountains in the far south bearing the name of Queen Alexandra."

EDWARD R. I.

CHAPTER XXIV.

THE SOUTH POLE WILL BE FOUND.

When Shackleton reached latitude 88 south, he had traveled far beyond the best record of Capt. Scott, his mentor, in 1892, and had gone 18 degrees farther than the best previous mark. This was made by C. E. Borchgrevink, a Dane, in March, 1900. Borchgrevink's exact record was latitude 70 degrees 50 minutes. Before him came a German and a Scotch expedition—these in addition to the Belgian party with which Dr. Cook got his training. The German party under Capt. Ruser made a trip in 1901 which was without sensational incident. The Scotch expedition, headed by Capt. Bruce sailed in the ship Scotia in 1903. Neither of these parties established a notable record. Of the various trips, however, the combined results were such as to prove the utterly desolate character of the Antarctic, and threw much added light on the basic discoveries made by Capt. Cook, an 18th century hero and navigator whose book "Capt. Cook's Voyages," is one of the celebrated books of the world. Cook, in 1773-5, first circumnavigated the southern continents and was really the discoverer of the Antarctic region, which even in modern times had been supposed by many excellent folk to be non-existent, except as an unbroken sea.

It is now known that the Antarctic, though mainly composed of vast stretches of ocean, does include some comparatively small areas of land. These, however, are so ice-covered and bleak as scarcely to be distinguished from the frozen seas. There is no vegetation, and for the most part, no animal life whatever. Explorers cannot, as Nansen, Cook and others did in the Arctic, shoot quantities of life-saving game when near the South Pole.

There have been three recognized routes of exploration to the lands lying south of the Antarctic circle,—Patagonia, Kerguenlen Island, and Tasmania.

The first American Antarctic traveler was a whaler named Nathaniel B. Palmer. He made his attempt in 1821 and discovered what is known as the Palmer Archipelago, lying north of what is supposed to be the Antarctic con-

tinent. In the above three named routes the most important discoveries have been made by way of Tasmania.

In recent years a new line of travel has been used. Lieut. Shackleton's was the most recent. He sailed from New Zealand for the southern regions.

Prof. T. W. E. David who made a trip to the southern magnetic pole asserts that in company with two other explorers he found the Magnetic Pole after a journey of 1,260 miles which lasted four months. Prof. David describes the Magnetic Pole as a circular area about thirty miles in diameter, within which the pole is situated from time to time during different days and at different hours of the day the pole constantly moving around.

Prof. David said that when his party got to the Antarctic Magnetic Pole the needle of the ordinary compass refused to work, but their position was more accurately told by an instrument which contained a number of magnetic needles, which tilted up vertically the nearer they got to the Magnetic Pole till at the Magnetic Pole itself they were upright. The compass would act in a similar manner in the Arctic magnetic circle.

That the South Pole will be discovered, and speedily, was asserted in an earlier chapter. Activity in this line was immensely stimulated by the discoveries of Cook and Peary. Explorers who had hoped to be the first to plant the flag of their nation at the northernmost point began to yearn for the glory of finding the southernmost. No sooner had the success of the North-pole-finders become known than preparations were begun by several travelers to go to the Antarctic. For a time it was believed both Cook and Peary would try for the South Pole, but later Peary announced he was through with polar travel. Cook did not give out his intentions immediately. In the meantime announcement was made that Capt. Scott, the Englishman, had received the backing of the Royal Geographical Society for a South Pole trip in which he expected to use motor sledges and all the other most modern means of polar travel. He expected to establish two bases, one in McMurdo Sound and the other in King Edward Land.

The Antarctic has not furnished the same black record of death, starvation and misery that has attended the search for the farthest north. This, perhaps, is because there has not existed the same fever of desire to reach the South Pole. But the day of discovery is coming. They will push forward, these intrepid voyagers, into the great white waste of the Antarctic, until the last discoverable land is charted, the last mountains climbed, and all that is knowable about the South Pole, as well as the North, will be known. And

they will find—a waste, and nothing more. The Antarctic cannot be populated, unless with increasing knowledge mankind can devise some now undreamed-of method of making life possible in the lands of perpetual ice.

There is at the South Pole no race of Eskimos who have learned by years of slow and dearly-bought experiences how to exist in the face of nature's sternest obstacles. And yet it is conceivable that, in the far-distant future, as civilization expands, and the wildernesses are inhabited, bands of pioneers will penetrate the Antarctic and force their livelihood from its rocks and its frozen seas. By such time, it may be believed, the Arctic region will already have been seized upon by men of the skill and hardihood needful for those who blaze the way.

Then will the names of Franklin, Greely and Nansen, of Peary and Cook, of Scott and Shackleton, have a luster far different from that which shines about the heads of men who achieve great but empty feats. To men like those will accrue the glory of heroes who extended the boundaries of the earth and discovered a foundation-place for the homes of the world's future millions.

Admiral Schley, the man who rescued Greely, has discussed most forcefully the question: "Does Arctic exploration pay?" Says he:

"There are two sides to this Arctic problem. There is a material side and there is a scientific side. . . . It has been asked, What is the use of all this loss of life? What is the use of all these expeditions? It may be said from the material side that millions of square miles of discovered territory have been added to our geography; that the gospel of Christ has been sent into this north land; that the domain of civilization has been extended; that the empire of commerce has been made to penetrate into this polar ocean, which has resulted in adding millions of money to our material possession and circulation. That being the case, it does seem to me that there is some compensation, certainly, for the small loss of life which has attended these expeditions."

CHAPTER XXV.

COOK IN THE ANTARCTIC.

For what he had of the lore of travel on ice-bound oceans, Dr. Cook owed much to his journey to the antarctic region in 1897.

On that expedition he figured, as the medical man of a party of Belgian scientists, who sought to traverse and chart some of the dim, unknown lands on the "bottom of the world." As every reader knows, a venture into the far south is as perilous as a journey in the arctic. Indeed, the dangers are in some respect greater. The paths where a few men have trod are not so well known down there, and the cold is equally severe. Then, too, the south polar seas are much farther from any of the great centers of civilization. Countries of South America, themselves homes of comparative savagery, lie nearest to the "frozen south," instead of great seaports, with endless quantities of supplies. Woe betide the explorer who, tempest-tossed and with his soul amost frozen within him, seeks shelter on the bleak coast of extreme South America.

Into this vast and terrifying region, however, Dr. Cook was chosen to go. With a large party of scientists and adventurers he left Antwerp in August, 1897. By January 23 of the following year the vessel had reached the Palmer archipelago, nearly at the limit of where men had penetrated. The party was seeking knowledge rather than attempting a pole-finding feat, and they gave much time to the exploration of five hundred miles of new land in the South Pacific. In the meantime winter came upon them, and though during many of the coldest months they succeeded in keeping clear of the drift, by March 4, 1898, they were fast in the ice in latitude 71 degrees, 22 minutes, and longitude 84 degrees, 55 minutes. This meant that they were to the southwest of South America, and about midway between that continent and the pole.

Dr. Cook has thrillingly described their succeeding experiences. They drifted two thousand miles in a year. Says Dr. Cook:

"Our acquaintance with the south polar pack ice dates from February 13, 1898, and ends with our escape on March 14, 1899. We first encountered it off the eastern border of Graham Land, before crossing the polar circle. Here

it was broken into small pieces, mixed with many glacial fragments and studded by innumerable icebergs. While trying to keep the coast in view, we steamed among a number of streams of small fragments of drift ice. An on-shore swell forced the ice together, and we were hopelessly held for the night of the 13th. To the east of us were the high peaks and limitless glaciers of Graham Land. The country was visible for only short periods and in patches, for a high fog hung constantly over the land, leaving only an opening here and there.

"To the west the sky was perfectly clear. A dark smoky zone near the horizon indicated the limits of the ice and an open sea beyond. Those were of a size and type quite similar to those of the Arctic Sea. The entire mass—icebergs, sea-ice, and the ship—rose and fell with the gigantic heave of the South Pacific, and for a time it seemed as though we should be carried with the moving drift against one of a number of small islands. But a change in the direction of the wind on the following morning so separated the ice that we were able to force our way into the open sea westward.

"After the first experience of the ensnaring powers of the drift ice, we did not easily put ourselves in a position to be again entangled. The season for a campaign to the far south was past, but M. de Gerlache, (one of the leaders of the expedition) thought it incumbent upon himself to make as strong an effort as possible to push into the main body of the pack and beat the "farthest south" of other explorers. The entire scientific staff were opposed to this effort, because it was thought to be too late in the season. No direct opposition, however, was offered when the 'Belgica' was headed southward. She was forced into the pack and out again, time after time, making after each rebuff a new effort farther westward. On February 28th, we were forced to take to the ice that the ship might better ride out a howling storm.

"I can imagine nothing more desperate than a storm on the edge of the pack. At best it is a cold, dull and gloomy region, with a high humidity and constant drizzly fogs. Clear weather here is a rare exception. Storm with rain, sleet and snow is the normal weather condition throughout the entire year.

"During the day of the 28th, we were unable to get a glimpse of the sun, and were in consequence in doubt as to our actual position. There was something about the sea and sky which promised a night of unusual terrors. The wind came in a steady torrent from the east, and with it came alternate squalls of rain and sleet and snow. Hour after hour it blew harder, and before night it brought with it a heavy sea studded with moving mountains of blackness.

The 'Belgica' ran westerly before it, almost under bare poles and edged closer and closer toward the fragments of ice to the south, where the sea was easier.

"The sky to the north and east was smoky and wavy, as if a number of huge fires were there sending out gusts of smoke. On the southern sky there was a bright pearly zone. This was an ice 'blink,' a reflection of the ice beyond our horizon upon the particles of watery vapor suspended in the air. As night came upon us it became necessary to choose between the forbidding blackness of the north and the more cheerful, but less hospitable whiteness of the south. With icebergs on every side, always in our course, coming as suddenly out of the thickening darkness as if dropped from the skies, it was not wise or prudent either to move out of it, or to rest in our position. To be more friendly with the ice, or to rid ourselves entirely of its companionship was plainly our duty.

"We decided to seek the harboring influence of the pack, as an experiment; to ride out the increasing fury of the tempest. The 'Belgica' was headed southward and quickly ploughed through the icy seas, but the noise and commotion which came to a climax every time she rose to a crest of a great swell were terrible. The wind beat through the rigging like the blasts out of a blow-pipe, the quivering mass swept the sky with the regularity of a pendulum; the entire ship was covered with a sheet of ice. As the eye dropped over the side of the ship, the sea glittered with the brightness of a winter's sky. The brightness of the sea, with the sooty blackness of the heavens over it, formed a weird contrast never to be forgotten. Here and there were sparkling semi-luminous pieces of ice which sprang from the darkness with meteoric swiftness, and were again as quickly lost in the gathering blackness behind us. These fragments increased in number and size as we pressed poleward; but the 'Belgica' would strike and push them aside as a broom moves dust.

"After a short but very exciting time, the pieces of ice became more numerous and of larger dimensions, and the birds were so closely grouped that further progress seemed impossible. The sea rolled more and more, in long, easy swells, as we passed through the ice. This eased the ship and made matters more comforting to the sufferers from seasickness.

"I must hasten to confess that about one half of us were thus afflicted at this time, still we tried to be cheerful. I cannot imagine any scene more despairing, though, than the 'Belgica,' as she pushed into the pack during this black night. The noise was maddening. Every swell that drove against the ship brought with it tons of ice which was thrown against the ribs with a thun-

dering crash. The wind howled as it rushed past us, and came with a force that made us grasp the rails to keep from being thrown into the churning seas. The good old ship kept up a constant scream of complaints as she struck piece after piece of the masses of ice. Occasionally we would try to talk, but the deafening noises of the storm, the squeaking strains of the ship and the thumping of the ice made every effort at speech inaudible. With our stomachs dissatisfied, and our minds raised to a fever height of excitement, and with a prospect of striking an iceberg at any moment and going to the bottom of the sea, we were, to say the least, uncomfortable. When we had entered sufficiently into the body of the pack, and were snugly surrounded by closely packed ice floes, the sea subsided, and here the overworked ship rested for night."

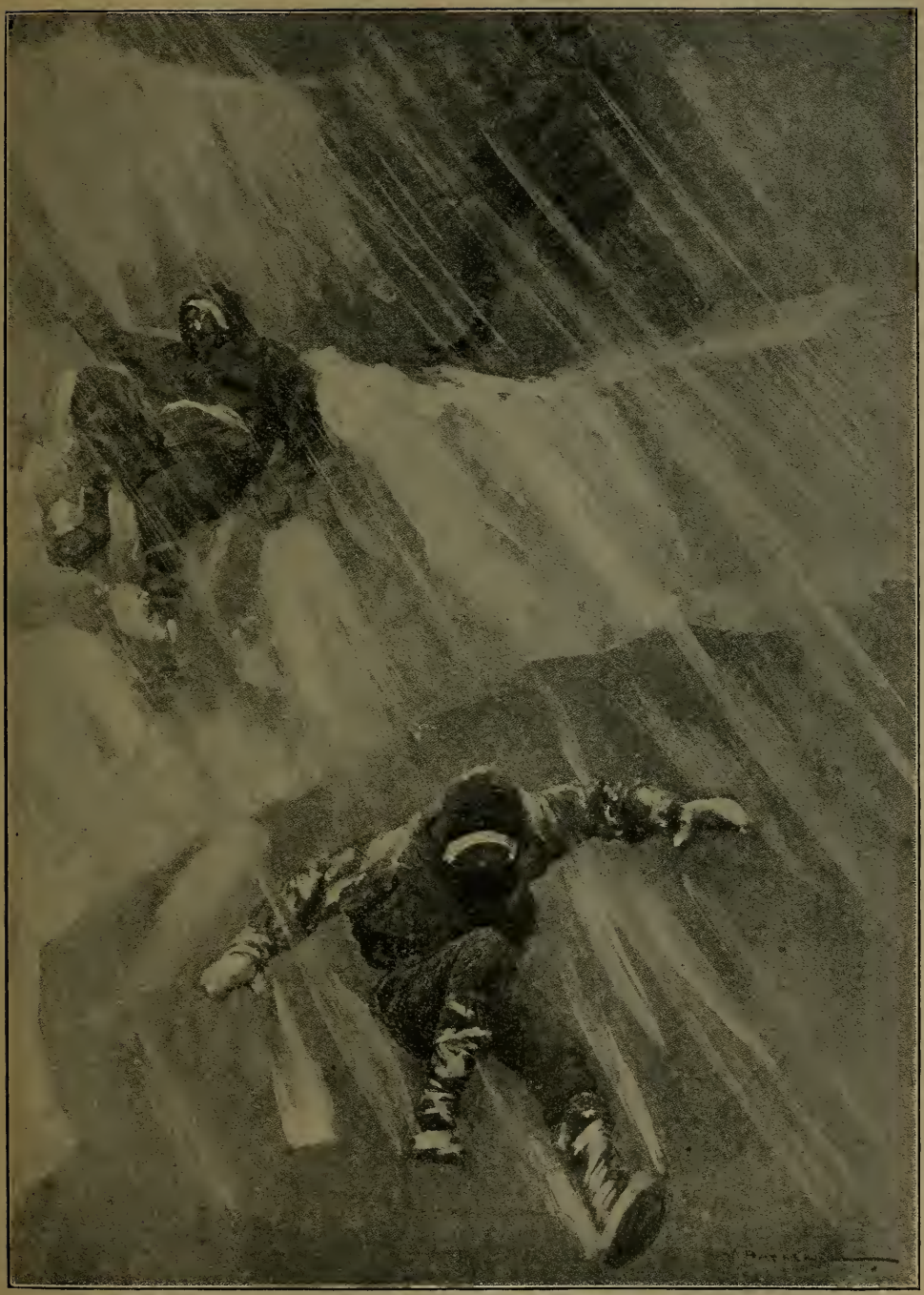
And this is what the Belgica and her crew endured for more than a year!

To further illustrate the woes of travel on shipboard in polar seas, there may be given here an experience of one of the parties in the last century. This was the crew of the Investigator, one of the ships that went north in an endeavor to find traces of Sir John Franklin's expedition.

Says the description of this mishap:

"It was a very narrow escape from destruction. A light breeze springing up the day after open water appeared among the floes, the pack to which the Investigator was attached began to drift. It was carried towards a shoal upon which a huge mass of ice was grounded. A corner of the pack came in contact with the great stationary mass with a grinding shock that sent pieces of twelve and fourteen feet square flying completely out of the water, and as the immense weight of the moving pack pressed forward, there was a sound as of distant thunder as it crushed onwards. The weight at the back caused an enormous mass to upheave in the middle of the pack, as though under the influence of a volcanic eruption. The great field was rent asunder, the block to which the Investigator was attached taking the ground and remaining fixed, while the lighter portion swung round and, with accelerated speed, came directly towards the vessel's stern.

"To let go every cable and hawser which held her to the block was the work of a moment, for every one was on deck keenly on the lookout. The moving mass caught her stern and forced her ahead and from between the moving floe and the stationary mass. The two came into grinding collision, and the men on the deck of the vessel saw the great bulk to which they had been attached slowly rise. It went up and up until it had risen thirty feet above



COMMANDER PEARY AND HIS MEN CAUGHT IN A SNOWSLIDE.

PEARY'S SLEDGE EXPEDITION HELD UP BY OPEN WATER.

the surface and hung perpendicularly above the ship. It towered higher than the foreyard, presenting a spectacle that was at once grandly impressive but terribly dangerous, for if it fell over upon the Investigator she would be crushed to atoms. For a few moments the suspense was awful, till the weight of the floe broke away a mass from the great bulk, and it rolled back with a tremendous roar and rending and, with some fearful heaves, resumed its former position. But no longer could it withstand the pressure, and it was hurried forward with the rest of the floe, grinding along the bottom of the shoal.

"The pack having set in towards the shore, the only hopes of safety lay in keeping with the ice, for if the Investigator was pushed ashore by it there would be little chance of her ever floating again. She was consequently made fast again and carried along, though with a tremendous strain on her stern and rudder. It was discovered that the latter was damaged, but there was no possibility of unshipping it for repairs while the ice was moving. Towards the afternoon the wind having dropped, the drift became less, and for five hours the rudder received attention.

"Scarcely had it been replaced when once more the ice began to move, and the crew saw that they were being forced directly upon a large piece of the broken floe which had grounded. Feeling certain that if the ship were caught between the grounded mass and the moving floe nothing could save her from being crushed to pieces, a desperate effort was made to remove the great mass. The chief gunner, provided with a big canister of powder, went on to the ice and struggled over the rugged surface until he reached the stationary mass. He intended to lower the canister under the mass before exploding it, but the ice was too closely packed around it to permit of this being done. There was no time to consider any other plan, so he fixed the blast in a cavity and, firing the fuse, scrambled back to the ship.

"The charge exploded just as the pressure of the floe was beginning to tell, and the result was apparently valueless. The Investigator by this time was within a few yards of the great mass, and there seemed to be no hope of escaping from the crush. Every one on deck was in a state of anxious suspense, waiting for what was evidently the crisis of their fate.

"Most fortunately the ship went stem-on, as sailors term it, and the pressure was directed along her whole length instead of along her sides. Every plank seemed to feel the shock, and the beams groaned as the pressure increased. The masts trembled, and crackling sounds came from the bulwarks as she strained under the tension. Momentarily the men expected that she

would collapse under them, when the result of the gunner's blast was made manifest. It had cracked the mass in three places, and the pressure of the ship's stem forced the cracks open. The liberation from the obstacle was at once evident as the mass slowly divided and, falling over, floated off the shoal. The cable holding the vessel to the floe parted as she surged forward and the ice-anchors drew out, while the blocks of ice, as they turned over, lifted her bows up out of the water and heeled her over; but the cheer which broke from the assembled crew drowned all other noise, for it was as though they had been snatched from the very jaws of death."

DISCOVERY OF THE NORTH POLE HARD TO PROVE.

CHAPTER XXVI.

WHAT SCIENTISTS SAID OF THE RIVALS.

In an earlier chapter some of the first developments of the Cook-Peary controversy were described. On the return of the rivals to America the war broke out with renewed vigor. All the living explorers of note took sides, and lengthy pronouncements were made public. Most of these debaters were inclined to apportion the glory in equal parts.

Of special weight was the declaration of Capt. Roald Amundsen, who a few years before had sailed through the northwest passage. Amundsen, after quoting Cook's first announcement of his discovery, said:

"Thus read the first message about the achievement of this great object, told dryly and without much ado, without a flourish of trumpets. It was quite like the man who sent it. For centuries the battle had been going on. Wealth and intellect for many years had been struggling side by side, inch by inch; the mind and energy of man had forced themselves through terrible ice deserts, great and well equipped expeditions had taken up the struggle of solving the problem, immense sums of money had been expended and many lives sacrificed, and for a long time it seemed as if nature would win in the great battle.

"The news from Lerwick, Shetlands, on September 1, came, therefore, as a thunderbolt down on the civilized world. All that scores of men and well equipped expeditions had been unable to achieve was accomplished by a single man. The North Pole had been reached.

"A shiver went through the whole world. Was it true? Who was Cook? You had never heard anything about him before, and I think it was right that only a very few believed the news.

"On my part, on the other hand, who knew Cook very well, the news didn't come as any surprise. The man was entirely adequate to the task. Fred A. Cook was born on June 10, 1864, in Callicoon, Sullivan County, N. Y. His parents came from Hamburg, Germany, to America about 1850, where his father settled down as a surgeon. In 1891 Cook became himself a surgeon. The same year he went on Peary's expedition to Greenland. As surgeon in this expedition he showed brilliant capacity as a polar explorer.

"Later on I had opportunity to speak with the young Norwegian, Eivind Astrup, who was also with the Peary expedition on the sledge trip through the inland ice of Greenland. From him I got a most distinct impression that the expedition of Peary owed its good results to Cook in a very high degree.

"This was Cook's matriculation in polar exploration. Later on he made other trips to polar regions, but it was not until six years later that I got to know him more closely and concluded a friendship which should last for life. This was in the Belgian expedition to the Antarctic on the Belgica, where he was surgeon, anthropologist and photographer, and I was first officer. This was from 1897 to 1899.

"The Belgian Antarctic expedition had as its purpose to seek down toward South Victoria Land to ascertain more closely the conditions existing around the magnetic South Pole. The plan was that a party of four men should be left behind there while the ship returned to Melbourne.

"Cook and I were well equipped to take part in this party, which was to spend the Winter there. When the expedition reached Punta Arenas, in Magellan Straits, where the steamer should coal, the original plan was abandoned, and the intention of searching the regions around Graham's Land, just south from South America, was decided on. Before going there we made several researches in less known parts of Terra del Fuego, and much good work was done by Dr. Cook among the natives there. He took an endless number of photographs during the whole journey.

"On the first of March, 1898, we made our way southward on flowing ice and we were stuck so fast in the ice that we were prisoners for a whole year on the same spot.

"Here it was that I learned to know Cook and learned to appreciate him as one of the ablest, most honest, most reliable men I have ever met. The Belgica wasn't prepared for Wintering either with equipment or provisions.

"During the Winter scurvy broke out. At the same time several of the party showed signs of mental trouble. In such circumstances it was very important to have a surgeon who was equal to the situation. That was just what we had in Dr. Cook. Quietly he went from one to another, cheering them and always trying to keep up their courage when it showed signs of failing them. There was only one who died and his death was owing to long standing weakness. All of Dr. Cook's patients recovered.

"But it was not only as a physician and friend I learned to appreciate him; it was also, and particularly, as a practical polar explorer. It was under very

difficult circumstances that we had penetrated the ice, and still more difficult when we tried to get out again. It was different from the floating ice of the arctic regions, which seems to be kept always in movement by the current in the ocean.

"This antarctic ice in which we were stuck seemed not to be influenced in the slightest by the movement in the ocean. The ice was immovable and seemed to have taken a grip on the vessel which it would not let go.

"The situation seemed critical. Our food would not be sufficient for another Winter and it was feared our mental condition would suffer very much if we had to stand another Winter here. What were we going to do?

"Then it was that our doctor quietly stepped forward with his proposal to get out of captivity, and his proposal was sanctioned by the highest authority. We should try to saw ourselves out of the ice. It wasn't an easy task, badly equipped as we were with tools, but what we needed in the shape of tools Dr. Cook by his ingenuity and skill in one way or another devised and manufactured. He thus helped us over our difficulties. That the Belgian Antarctic expedition in this way got out of the ice is due first and foremost to the skill, energy and persistence of Dr. Cook.

"His ascent of Mount McKinley gave us again a good opportunity to look a little further into his character. Quietly he came forward and told us that one of the greatest exploits which had ever been made in mountain climbing was now accomplished. It didn't occur to him to beat a drum and blow a trumpet to make this known to the world. If the world wouldn't acknowledge his exploit without this it was all the same to him.

" 'Reached the North Pole on the 21st of April, 1908. Discovered land far northward.'

"It would not, indeed, have been necessary for him to sign his name under this for my benefit. I should have understood all the time that it was from him. Nobody else could have taken it in such thoroughly fine and quietly noble manner.

"It was a pity that Peary should besmirch his beautiful work in throwing out outrageous accusations against a competitor who had won the battle in open field. Peary will prove his statement, they say, but in which way, I ask? Is it the evidence of Cook's two followers on which he rests his accusations? Then I must confess it has a very weak foundation.

"When Peary accuses Cook of having taken his Eskimos, then this is nonsense. The Eskimos, as we know, are free people like ourselves; nay, to a

still greater extent, and they do what they like. When, therefore, the Eskimos took resolution to accompany Dr. Cook on his expedition toward the North Pole, neither they nor Dr. Cook felt bound to render Peary an account.

"Another and quite as futile a detail in the accusation of Peary is when he says Cook went into his domain. Does Peary really mean that he can assert the right to this territory? I think Peary cannot be so childish. It is very likely a stroke in the air to gain the sympathy of unsuspecting people. The American people have a great stake in arctic exploration. They deserve the undivided admiration of the whole civilized world for the splendid result which two of their brave sons have just brought home.

"We shall always honor Cook as the first man on the geographical north pole of the earth. We shall always admire Peary as the man who didn't give up, but finally achieved his aim and desire after many years' hard work."

Dr. Eugene Murray Aaron, F. G. S., who has acquaintance with both Commander Peary and Dr. Cook and who has a knowledge of the terrors of the long night, and the hardships and difficulties of travel on the arctic ice, who for some years has been a Chicagoan, engaged in geographic authorship and publication, also discussed the merits of the controversy.

"No one who knows either Cook or Peary," said the doctor, "can for a moment doubt that each of them firmly believes that he has set his feet on that spot without longitude, where all lines converge—and hence without dimensions, that we call the north pole. The only doubt permissible to fair minded men who have the privilege of acquaintance with these great men is as to whether in the final dash they were able to take along those instruments necessary to scientific exactitude and whether, during their very brief stops on the top of the earth, they had sufficient time to verify their first conclusions.

"It must be the opinion of all that the reputations of America and of American men of science have suffered from the unseemly, though perhaps rather natural, outburst of Peary and his warmer supporters, when the news from Cook reached them. Commander Peary has so manfully struggled northward for the past quarter of a century, always meeting rebuffs and defeat with a brave heart and each time returning to the battle to win a few more miles from the threatening ice floes and leads, that it is very understandable that he has almost come to regard the pole as his by eminent domain. It is not hard to realize the poignancy of his feelings when he learned that his rival had beaten him to the goal, all the more as the personal relations between the two had been strained for many years, owing to causes known to few, but quite sufficient to both of these positive, forceful men.

"That Peary lost grip on his better judgment for the moment and sent forth statements regarding his rival's honesty that will always come up to plague him, seems to be beyond question, although much must be allowed for the misunderstanding of correspondents and perhaps even something for telegraphic slips. That, however, he has done, with respect to Cook's supplies or records, anything dishonorable or underhanded, those who know him cannot believe. It would seem, at this moment, that each might well cry: 'Deliver me from my friends!' For it is the intemperate utterances of those that have done most to cloud the atmosphere and eclipse the proverbial American spirit of fair play.

"Since Peary's first cablegrams, all that we have had from him bearing upon Cook's claims has been corroborative, rather than otherwise. Cook's experiences with unusually propitious conditions near the pole were duplicated by Peary. The former's remarkable speed on his dash northward has been exceeded by Peary on his return from his goal to Cape Columbia. The lack of adequate witnesses, so criticised by Peary's adherents when it became known that Cook had but two Eskimo 'boys' with him, has been effectually met by the fact that Peary had but one such with him under like circumstances. One with far northern experience can see many more unmistakable signs of agreement in the very inadequate present accounts of the two men. While Peary's account is thus far devoid of longitudinal data, it is already plain why he encountered no signs along Cook's route. At their points of departure from northern Grantland they were over 150 miles apart, and, as Cook's returning route was still further to the west, there were only a very few miles in the immediate neighborhood of the pole where by any possibility his tracks could have been detected by Peary.

"Still further, it must be remembered that these men, in common with everyone who has established a far north record, approached their tasks in March and April, because of the upbreak of the ice in that great open polar sea during the long continuous day of the summer, and, also, that one of these long days had intervened between Cook's return and Peary's start, doubtless breaking up every vestige of Cook's feverishly hurried stops and dissipating any records in the ice he may have sought to leave behind."

"Then what proofs will the public ever have; how will these men prove beyond doubt that they have been there?" the doctor was asked.

"Of absolute proofs, such as would be undeniable in a court of justice, there can be none. We will always be compelled to accept their words. The

talk of records of observations, that will support them beyond peradventure, is the sheerest nonsense. Any man competent to take such observations would be equally competent to coin them. There are no self-recording instruments to automatically, mechanically uphold him or give him the lie. The statement credited to astronomers that an eclipse, occurring at the time that Cook was beyond the 80th degree of latitude, must have been observed by him and would be contributory evidence, likewise means nothing. Those acquainted with atmospheric and hydrographic conditions in the far north know that this is buncombe. Then, too, were Cook the sort of man to manufacture records, and we who know him believe him to be far above it, it would have been the easiest possible thing to acquaint himself with future astronomic conditions and be prepared to incorporate such observations among his other manufactured data.

"No, not until some one has firmly established an aerial stage line to the north pole will we be in a position to contravert the claims of those hardy men who find a certain delight in the frozen solitudes of the Arctic sea. As a matter of fact, there is nothing inherently more difficult in reaching the upper stretches of the final dash than have to be coped with in the preparatory marches; perhaps nothing as terrible as Cook must have undergone in his winter quarters in Ellesmereland, on his homeward journey."

"Can you state in a few words the practical value of the discovery or attainment of the pole?" the doctor was asked.

"By 'practical value' I understand you to take the usual utilitarian American view, and that you would shut out the gratification to American pride and the possibility that this achievement will lead to our letting the north pole rest in peace, which we will not. Then, with those rather doubtful advantages set aside, it is possible to answer your question in four letters—none. That certain observations could be taken at the pole, which, if repeated at the equator, would enable us to very nearly arrive at the weight of our earth and to settle some other certainties desired by physiographers, is well known. But these are not possible on any dash to that region, and it is very unlikely that conditions will ever allow either the transportation of cumbersome paraphernalia or the prolonged sojourn necessary."

To the question as to whether some recent interviews were accurate in considering Cook and Peary the greatest explorers of all times, the doctor quoted a long list from the roster of famed explorers, any one of which he regarded as of greater eminence. Among these the names of Magellan, Von Humboldt,

Livingstone, Wallace, Merrian, Bates, Whymper, Conway and Hedin are recalled.

"Conway, practically alone in the great Andes, Wallace living with the head-hunting Dyaks of Borneo, Bates for a decade on the upper Amazon, Sven Hedin courting instant death if detected on the march toward Lassa, these and many others like them, not only met and conquered as great dangers and for far greater lengths of time than did Cook or Peary," added the doctor; "but they contributed vastly to the sum of useful human knowledge.

"Yet I would not take one iota of credit or glory from Cook or Peary, if I had that power. The qualities of indomitable courage and tireless perseverance that have won them these great successes are becoming too rare among us, we who are so greatly given over to half-baked and transient effort, to hysteric admiration and interests, and to the softening and often ignoble chase after the elusive dollar."

From the Detroit Free Press

CHAPTER XXVII.

COOK'S RETURN TO HIS HOME.

It was a great day in New York when Dr. Cook was welcomed back to his native land. He was hailed as a conqueror; and though the crowd did not crush him and tear his clothing, as a mad rush of the curious did in Copenhagen, enthusiasm in New York was no less fervid.

The steamer Oscar II, on which the explorer returned to America, had arrived in the outer waters of New York harbor the evening of September 20. It was not docked, however, until the following morning, since its arrival before Tuesday would have disarranged the carefully laid plans for a grand reception.

Dr. Cook's arrival at New York went through progressive stages of enthusiasm as he moved from the lower bay to quarantine, thence to the tug on which his wife and children were waiting to give the first exchange of family endearments, then to the steamer Grand Republic, freighted with more than 1,000 enthusiastic friends and champions of the explorer, and finally, as he set foot on his native soil of Brooklyn and passed through cheering throngs and flower-arched streets, to his home in Bushwick avenue.

Everywhere he was met with the same clamorous shouts and demonstrative approval, which swept aside any dissenting note if it existed.

Dr. Cook bore his honors calmly and with dignity, smiling upon the crowds, bowing acknowledgments to the oft-repeated cheers and grasping the outstretched hands of friends and strangers.

The steamer Oscar II, with Dr. Cook on board, reached quarantine at 6 a. m., and anchored to await inspection by the health officer of the port. Meantime several tugs loaded with passengers hung about the liner.

At sunrise the steamer was dressed with flags and preparations were made to receive the explorer's wife and children, who were coming down in a tug, and to meet a reception committee of city officials and friends of Dr. Cook, who went down the harbor on the steamer Grand Republic.

Dr. Cook was standing amid a group of passengers on the saloon deck when

the health officer boarded the ship. The explorer's face was tinged with a healthy bronze and his demeanor was modest and unassuming. He answered questions freely, but declined to discuss the attitude of Commander Peary.

When asked about the controversy over the discovery of the pole, Dr. Cook said:

"I have deplored the whole controversy and feel that nothing should be said. I shall leave the public to judge. I feel that the Danish people, who have accepted me without question and have treated me so liberally, should be the first to receive the evidences of my work.

"I want to see my wife and family, who, I understand, will come to us first in a revenue tug; then I do not care what comes."

Dr. Cook said that during the four months of his stay in Greenland he went over all his notes and data and completed his book describing his trip to the pole.

When he was informed that they were close at hand on board the tugboat John Gilperson, his face beamed and he ran to the side of the deck and peered through the mist.

Just then, the Gilperson loomed up through the light fog and the figures of his wife and children began to assume definite shapes.

When Mrs. Cook and the children could be distinguished the explorer looked down at the little woman, who had smiled unbelievingly when she received reports that he was dead in the Arctic regions, who had wept for joy when the first dispatches of his discovery of the north pole reached her, and who had stood by him when Peary questioned his veracity.

He gazed for several seconds without displaying any emotion, save a slight trembling of his hands. Then his eyes began to fill with tears.

He pulled off his Derby hat and waved it at his wife. She waved her handkerchief—quickly, eagerly. At the same moment, the Gilperson blew three blasts of its whistle. It was the nautical language for "Glad to see you back." The deep, bass whistle of the Oscar II responded in kind.

Dr. Cook then turned to Captain Hempel of the steamship.

"I guess I'll go aboard the tugboat right away," he said.

The captain grasped his hand.

"All right, sir," he replied.

Then the captain turned and ordered his men to lower the rope ladders. It had been understood that Dr. Cook was to board the Grand Republic, but it was not yet in sight. Even if it had been, Dr. Cook would not have boarded it. He had eyes only for his wife and little daughters, Helen and Ruth.

"You are not timid about descending the rope ladder, are you?" the captain of the Oscar II, laughing, asked Dr. Cook.

He smiled, but did not reply. In descending, he unconsciously displayed his great strength. Sometimes he held himself up by his arms like an acrobat hanging from a trapeze. When he reached the bottom of the ladder he leaped lightly to the deck of the tugboat.

He turned with his arms outstretched, and his wife threw herself into them.

Never before had such a scene taken place on the grimy deck of the tugboat. Here was a man who had received the homage of a King without displaying the slightest trace of sentiment. But now, on seeing his wife, all of his reserve gave way.

He was not Dr. Frederick A. Cook, discoverer of the North Pole. He was merely a man who had been separated from his wife and children for more than two years.

When he clasped his wife in his arms neither of them uttered a word for some time. Then she murmured:

"Oh, Fred," and that was all she could say.

Dr. Cook patted her affectionately, but he couldn't say anything.

Their two little girls broke the spell that kept their mother and father silent. They rushed up and each seized one of Dr. Cook's hands.

"Hello, papa," cried Ruth, the youngest.

Helen, the older, then chimed in with a greeting, and Dr. Cook picked Ruth and then Helen up in his arms and kissed them.

Meantime the tugboat Gilperson had turned her nose toward New York and started off at full speed. As she left, she gave the Oscar II a parting salute, to which the liner replied.

At this time the steamship Monmouth was coming up the bay. She saluted the Gilperson and scores of passengers crowded out on the decks and waved a greeting to Dr. Cook.

Every craft in the bay then began saluting the tugboat. When it reached Liberty statue it was met by the Grand Republic.

As the tug came up the bay, one man had stood in the background. He was John R. Bradley, the man who financed Dr. Cook's expedition. When Dr. Cook had greeted everyone else Mr. Bradley stepped forward.

The two men looked into each other's eyes for a moment and then each took the other by the two hands. They stood that way for fully a minute. All the gratitude that Dr. Cook could express was in his eyes. The words that came

to his lips were merely conventionalities. But the two men understood each other.

Reporters crowded around Dr. Cook, but he begged to be left alone with his wife and children for a few minutes. With his brothers, William and Joseph, the party then went into the captain's cabin and remained there for fifteen minutes. By that time the Grand Republic, chartered by the Arctic Club of America, was ready to take the Cook party aboard.

A companion ladder was lowered from the Grand Republic to the tug, and Dr. Cook climbed up. Mrs. Cook and her party remained on the tug, which followed the Grand Republic as it proceeded up the bay, around the Battery and up the East River amid such a din of whistles, sirens and cheers as seldom has been heard hereabouts.

"Bravo, Cook!" "Welcome home!" "We're proud of you!" rang out across the water. Then the words "For He's a Jolly Good Fellow" were sung in chorus by Dr. Cook's fellow passengers on the Oscar II as the tug left the ship's side.

The Oscar II immediately weighed anchor and continued up the river to her dock, and Dr. Cook was transferred to the Grand Republic, which was lying a quarter of a mile away. Cinematographs and cameras were turned on him from every point of vantage as he went on board and passed through a guard of honor of the 47th regiment to receive the greeting of the reception committee.

On board the Grand Republic Dr. Cook was greeted by the official reception committee and a wreath of roses was placed about the explorer's neck.

Standing on the upper deck of the steamer Dr. Cook addressed the committee and his friends as follows:

"To a returning explorer there can be no greater pleasure than the appreciation of his own people. Your numbers and cheers make a demonstration that makes me very happy and should fire the pride of all the world. I would have preferred to return first to American shores, but this pleasure was denied me. Instead I came to Denmark and the result has come to you by wire.

"I was a stranger in a strange land, but the Danes, with one voice, rose up with enthusiasm and they have guaranteed to all other nations our conquest of the pole.

"You have come forward in numbers with a voice appreciating still more forcibly. I can only say that I accept this honor with a due appreciation of its importance. I heartily thank you."

The steamer Grand Republic, with Dr. Cook, his wife and children and members of the Arctic Club on board, steamed up the North River from the battery to the foot of West 130th street, where a brief stop was made.

The trip up the river was a triumphal one. The Grand Republic was greeted with the siren shrieks of hundreds of craft, small and large. Dr. Cook stood on the upper deck.

The steamer after reaching the foot of West 130th street went up the North River as far as Spuyten Duyvil and then retraced its course to the Battery and proceeded up the East River to the foot of South 5th street, in Brooklyn, where Dr. Cook was landed.

The ceremonies on the Grand Republic during the three hours that the explorer and the reception party were aboard were necessarily informal, owing to the crowd that pressed about Dr. Cook, all eager to shake his hand and exchange words of greeting. The first person to greet him was Ida A. Lehmann, a daughter of one of his old Brooklyn friends, who had been delegated to decorate the explorer with a wreath of roses, in accordance with a custom followed at Copenhagen. As Miss Lehmann threw the garland about Dr. Cook's neck, she said:

"You hero of the north, come to us, your friends, associates and business acquaintances of your own neighborhood, Bushwick. Your record with us was one of honor, character and conscience, and your word the synonym of truth. We believe you from the far north, and are here to proclaim you a 'gentleman of Bushwick!'"

Dr. Cook wore the garland during the rest of the reception ceremonies.

Bird S. Coler, borough president, welcomed the explorer aboard the steamer on behalf of the borough of Brooklyn. "I regret," he said, "that we have not a mayor as big as our town to receive you. You are not only a great explorer, but a thorough American gentleman, and Mrs. Cook is a thorough American lady."

Speaking for the Arctic Club of America, Capt. Bradley S. Osbon, its secretary, read a letter from the president, Rear-Admiral Winfield Scott Schley, in which the admiral expressed regret that his health made it impossible to be present. "I hope you will carry to Dr. Cook," he said, "my congratulations and abiding faith in the great achievement he has accomplished."

One of the first to greet Dr. Cook after the speechmaking was over was his sister, Mrs. Joseph Y. Murphy of Tom's River, N. J. The bronzed explorer took her in his arms and hugged and kissed her regardless of the cameras trained upon him. After that he kissed his niece, Miss Lilyn Murphy, and shook hands with Joseph Murphy, his brother-in-law.

It was a disheveled discoverer that finally retired to his cabin, where he

remained during the rest of the voyage up and down the North River. Dr. Cook did not appear on deck again until the steamer approached the pier at the bottom of South 5th street, Brooklyn, where the local reception committee was gathered to receive him.

It was still half an hour before the time fixed for his landing, however, so the Grand Republic kept on up the river, while the band on deck played "Auld Lang Syne" and "Home, Sweet Home," and Dr. Cook with his family and a few others stood in the pilot house, where they were in view of the thousands gathered on the Brooklyn shore. The steamer turned and came back to land the party at 11.35.

About 100 automobiles and 5,000 persons were on the pier and along South 5th street when Dr. Cook landed. There was a rush to see him and to form a parade. After much confusion the police made a passage for an automobile carrying the explorer, and the other vehicles, headed by a band, fell into a line a mile long. The parade passed through five miles of cheering, crowded streets. At Dr. Cook's former home in Bushwick avenue the procession passed under an arch bearing the inscription:

"We believe in you."

Thousands of school children lined Bushwick avenue and cried "Cook! Cook!" as the explorer passed on his way to the Bushwick club, where a reception in his honor was held during the remainder of the day.

Dr. Cook gave out the following signed statement:

"On Board the Oscar II.—After one of the most delightful trips of my life across the Atlantic, I am indeed glad once more to see the shores of my native land. I have come from the pole. I have brought my story and my data with me. The public has already a tangible and a specific record of that trip. In a short time, the narrative, with all the observations, will be published and placed before the world for examination.

"It is as easy for you as for me to understand why I cannot, on the impulse of the moment, read off a manuscript which covers the work of two years. As said upon several occasions, all the charges, accusations and expressions of disbelief are based upon entire ignorance of the supplementary data which I possess.

"No one who has spoken or written on the subject in opposition to my claim knows of the facts with which such work of exploration is measured. All of the criticisms have been based upon obvious errors in the reproductions of my first dispatch or upon the discussions of petty side issues presented by unfair critics.

"The expedition was private. It was started out without the usual publicity bombast. John R. Bradley furnished the money and I shaped the destiny of the venture. For the time being it concerned us only, but the results were so important that on returning I at once placed before the public a report containing the main outline of the work.

"I have not come home to enter into arguments with one man or with fifty men, but I am here to present a clear record of a piece of work over which I have a right to display a certain amount of pride. When scientists study the detailed observations and the narrative in its consecutive order I am certain that in the due course of events all will be compelled to admit the truth of my statement.

"I am perfectly willing to abide by the final verdict of this record by competent judges. That must be the last word in the discussion and that alone can satisfy me and the public.

"Furthermore, not only will my report be before you in black and white, but I will also bring to America human witnesses to prove that I have been to the pole. FREDERICK A. COOK."

"I shall await events," said Dr. Cook just before he left the deck of the Oscar II to be taken to the city by the welcoming committee.

"When my material has been got together and put into shape it will be submitted in the first instance to the University of Copenhagen. After that it will be laid before the geographical societies of the world. I will not consent to submit any fragmentary portions of my observations or my records to any one. The report and all the data connected with my trip must be examined in their entirety, together with my instruments, some of which I have in my possession now and others of which are on their way to America at the present moment. These will all be properly controlled and tested before submission to the scientific bodies."

Asked for what reason he did not immediately give full details of his achievement, Dr. Cook said:

"I have given to the public a concise account of my journey similar to that always given by explorers on their return from a journey of exploration. For the present no other details are necessary and, as a matter of fact, no further specific evidences of my claim have been called for from any side. It has never been customary hitherto for explorers to make their full records public in such haste. As a rule, scientific societies are not remarkable for their rapidity in coming to conclusions, and they are usually content to wait until complete data are compiled."

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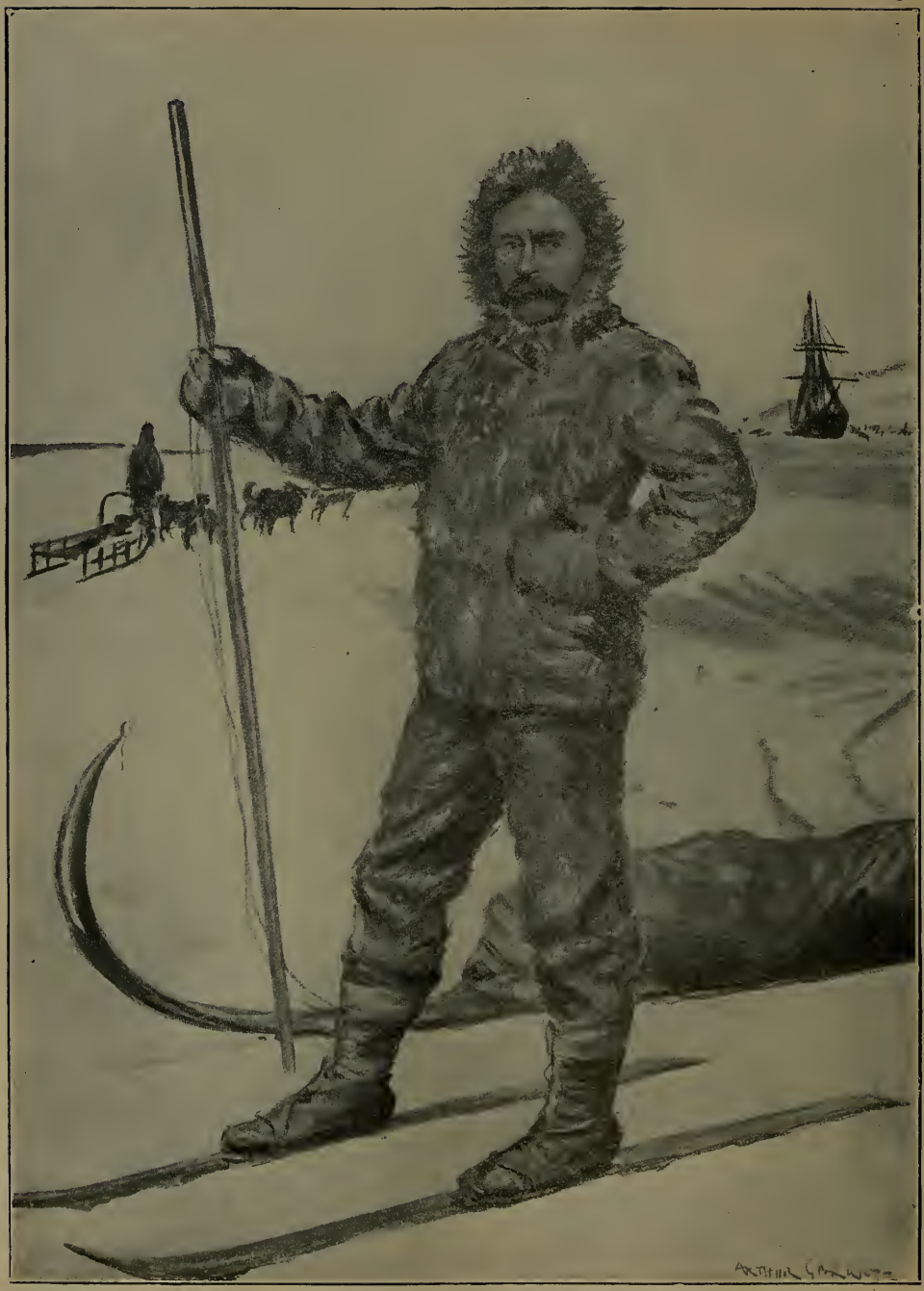
DR. FREDERICK A. COOK DECORATED WITH THE GARLAND OF HEROES.

Photograph of Dr. and Mrs. Cook and the officers of the Bushwick Club, Dr. Cook's home folks. They followed an ancient custom of Denmark and placed a garland of flowers around their hero.



COMMANDER ROBERT E. PEARY, U. S. N., READY FOR THE DASH TO THE POLE.

In regard to the full recognition of his feat by Denmark, Dr. Cook remarked:

"Daagaard-Jense, inspector of Danish North Greenland, after hearing Rasmussen and talking with Gov. Kraul of Upernavik, who has seen and read the entire record, telegraphed to the Danish government in Copenhagen his assurance of the truth of my declarations and guaranteeing them as authentic. The Danish authorities in Greenland, who are in reality the advisers of the Danish government, have been for nearly four months in possession of all details of my trip. The Danish government and the University of Copenhagen, as well as the Danish Geographical society, have, on their report, taken over the virtual guaranty for the sincerity and authenticity of my records. They have stood up for them, so to speak, before the world. They do not ask me to furnish any further proofs or evidence of any kind, but in justice to Denmark, it is my intention to place the first completed record of my polar journey at the disposal of the University of Copenhagen."

On September 22 Dr. Cook cheerfully submitted to a gruelling cross examination by forty inquisitors of the daily and periodical press, and before the interview came to a close he had converted even several arrant sceptics into enthusiastic partisans of his right to the title of discoverer of the North Pole.

It was an occasion for which there had been ample preparation, for the questioners had been informed the day before that he would receive them and they had meanwhile taxed their ingenuity with the devising of all manner of interrogatories and with the aid of geographied experts had prepared test questions. Every one present had framed inquiries which bore upon some point in the accounts of the discovery, which was not quite clear to them. For an hour and a half this business of quizzing proceeded and, in parting, the explorer was surrounded, not by analysis, but by eager converts, several, who were commissioned by their editors to doubt, were wringing Dr. Cook by the hand and expressing their unqualified personal belief in everything he had said.

He referred quite casually to the writing of his experiences and at the request of one of the reporters brought out one-third of the manuscript which he had prepared prone upon the floor of a hut with a flat stone for his desk and a blubber lamp for his light. He had with him three small memorandum books, five by eight inches, containing two hundred leaves each. To these he had committed his diary in pencil, for ink will not withstand the Arctic chill. When his enforced sojourn in the frozen North gave him time for literary labors he had written 100,000 words in these memorandum books between the

lines of what he had already jotted down. The chirography was almost microscopic and often hundreds of words were crowded together like a multitude of pigmies taking their morning walk on paper. The scarcity of pages had compelled from the Arctic explorer an economy which caused him to rival the ingenuity of those patient men who write the Decalogue on the back of penny postage stamp.

"That's enough for me," said one hard headed Thomas, who had leaved over the record. "No man alive would sit up nights doing this kind of thing for fun."

Dr. Cook entered the room, where the interviewers were assembled, accompanied by his secretary, Mr. Walter Lonsdale, of the American Legation in Copenhagen and by his daughter Ruth. The child remained with him a few minutes.

The explorer said he would prefer to have one man ask the questions, but as all had something on their minds he addressed himself to each interrogator in turn, looking him squarely in the eye and speaking in incisive, clear cut sentences.

"What was the reason," he was asked, "that you imposed secrecy upon Mr. Harry Whitney and young Pritchard on your return from the pole?"

"I do not think," he answered, "that I was bound to disclose to Mr. Peary the nature of my work, and he might have found out about it on his arrival at Etah. I told Mr. Whitney that he was at liberty to give to the world all that he knew after I had given the announcement first to the world. I knew Mr. Whitney would probably not be back to civilization before the middle of October. The Jeanie, on which he is aboard, is now following out the programme as I understood it. He told me he was going to the American side and to Hudson Bay to hunt, and the understanding when I started for home was that he was not to write anything which would get to civilization or to Mr. Peary before I did."

"Why did you not wish Mr. Peary to know?" was the question.

"Why should I," was the answer, "give to Mr. Peary any information before I gave it to the world?"

"Did you think that Mr. Peary would make any improper use of it?" was asked.

"I don't think so," was the reply.

Dr. Cook was asked if he had any comment to make on the fact that Commander Peary had decided to accept no dinner invitations until the "contro-

versy" concerning the discovery of the North Pole was settled. The Brooklyn explorer said that he had never heard of it and that he had no comments to make. He said there had never been any trouble between Mr. Peary and himself.

"Do you," one interrogator began, "consider Commander Peary your enemy or your friend?"

"I don't know," he replied, "I always treated him as a friend and until I know more about the situation I shall continue to do the same."

SOME OF THE QUESTIONS.

Here are some of the more important questions with the replies of Dr. Cook:

Q. Did you ever say anything at Etah that indicated that you feared for your life if Commander Peary got there?

A. No.

Q. Would you be willing to meet Mr. Peary in a debate when he gets here?

A. As far as I am concerned the Peary incident is closed. Mr. Peary is not the dictator of my affairs, and I do not care to say anything further about him.

Q. Did you know Mr. Whitney when you had met him on your return to Etah?

A. No; he introduced himself, but I did not catch his name and did not know it until the following day.

Q. Did you know that Mr. Peary was going to start up at that time?

A. No, I did not know.

Q. What caused you to have such confidence in Mr. Whitney that you entrusted your instruments to him?

A. I knew him by name, and circumstances that arose while I was with him justified my confidence. I gave him the instruments to bring back because I thought they would be less liable to injury on board his vessel than if I took them across glaciers and rough ice covered country.

Q. What is your opinion of the story told by the negro Henson of the information he obtained from your two Eskimos?

A. Well, the Eskimos were bound down by me not to tell any one where they had been. I should like you to have Henson here and cross-question him yourself. Henson's testimony is entirely founded on hearsay.

Q. Knowing that a ship was coming north this summer for Mr. Whitney,

why did you not wait for that ship and come direct to New York instead of going to South Greenland and from there to Copenhagen?

A. I knew that the Danish government ship would get me home before Whitney's ship.

DESCRIBES HIS INSTRUMENTS.

Q. What instruments did you have with you from Cape Thomas Hubbard and back?

A. Sextant, artificial horizon, three compasses, three chronometer watches, thermometers, barometers and a pedometer.

Q. What kind of sextant did you have and how many?

A. One sextant—a French apparatus.

Q. What kind of artificial horizon did you have?

A. Glass.

Q. What kind of transit or theodolite did you have and how many?

A. We didn't use any.

Q. What kind of compass did you have?

A. We had one liquid compass and one surveying compass.

Q. What kind of compass did you use to determine your compass variation?

A. Surveying compass; it had an azimuth attachment.

Q. What compass course did you take from Cape Thomas Hubbard north?

A. Well, that changes every day. If you follow the course on a map you have got the compass course.

Q. Was your determination of the pole solely by an observation of the sun's altitude, or did you take observations of the pole star twelve hours apart, and by the determination of the celestial pole midway between the two positions prove the accuracy of your position on the terrestrial pole?

A. How are you going to take an observation by the polar star when you have a continuous sun? There is no night; you cannot have any stars; there is no darkness.

Q. What other kind of observations did you make at the pole and how many? And what was the altitude of the sun?

MADE NAUTICAL OBSERVATIONS.

A. We have told that the altitude of the sun gave us our positions; that is all there is to say about that. We made regular astronomical observations, such as would be made by the compass and other instruments. We merely made the nautical observations that a captain would have made aboard a ship.

Q. Will you describe in detail any single observation taken by you at the North Pole, with the exact figures of the results and the corrections applied?

A. Not at this present moment. We will describe every one of them in detail when they go to the University of Copenhagen. They will go there within two months. The entire records will be delivered to the university, and after that they will go to everybody that wants to examine them.

Q. In your original narrative you said:—"The night of April 7 was made notable by the swinging of the sun at midnight over the northern ice. Our observation on April 6 placed the camp in latitude 86.36, longitude 94.2." The astronomers say that in the latitude you mention the midnight sun would have been visible on April 1 and that if you really saw it for the first time on April 7 you must have been 550 miles from the pole instead of 234, as you supposed. Therefore to have reached the pole on April 21 you would have had to travel thirty-nine miles daily. What is your explanation of the apparent discrepancy?

A. In the first place, that indicates the point I have taken; that nobody can pronounce judgment on a matter of this kind until they get the complete record. The northern horizon at midnight had been so obscure that we could not tell whether the sun was below the horizon or above it. We were not making observations at midnight. Therefore this statement is based on the fact that we have said that it was possible to see the sun on midnight of that day. I have not looked through the Herald's story, as it has been written out in full. My impression is that we were absolutely unable to see the sun the midnight before that. The horizon was obscured.

Dr. Cook in reply to several questions said that he could not have gone back to civilization any sooner than he did.

"Unless," he began, "I started through the ice for three hundred miles in an open boat and went to— Well, no, just take that out; I could not have got back any sooner."

He described in detail his provisioning for the final journey. He had started from Greenland with eleven sledges, 103 dogs and eleven Eskimos, and had started on his last stage northward with two Eskimos and twenty-six dogs and two sledges, on which were laden rations for eighty days. He had made

the calculation of the food supplies, too, on the basis that dog would eat dog. Speaking of the land which he had discovered between latitude 84-85 and the 102d meridian, Dr. Cook said that it was mountainous on the eastern coast. He saw it at a distance of about forty miles.

"Why didn't you explore it?" was one of the inquiries.

"If I had," he answered, "I should have never found the pole."

His attention was called to a quotation from one of his books on the Antarctic, in which he referred to his taking a few observations himself, as that work was distributed among the members of the party.

Q. Do you think that on account of your lack of experience that your observations might be erroneous?

A. A full investigation of those observations which are to be presented first to the University of Copenhagen will show if that is the case.

Dr. Cook recounted in graphic language his meeting with Mr. Whitney. An Eskimo had sighted the explorer at a distance of five miles on the ice, and Mr. Whitney had come two miles to meet him. Dr. Cook had then only half a sledge.

Referring to a dispatch in the Herald in which it was said that doubt had been cast upon his trip to the North Pole on account of the condition of his equipment when he returned, Dr. Cook at once replied:

"I do not see what they could expect. We came back to Etah with half a sledge. Our sleeping bags had been fed to the dogs. We were ourselves dragging what was left of the sledge and the instruments and records. We had come back to land from the pole with two sledges.

Dr. Cook said he had with him a folding boat of canvas, by means of which he was able to cross leads, and this he had carried with him to the pole.

Speaking of the conversations he had with Mr. Whitney relative to his discovery, he said that later he questioned Pritchard, one of the Peary sailors and learned that he was about to send a letter to his mother telling of the discovery of the pole. He had Pritchard leave out this paragraph for fear the letter might by some chance get to civilization sooner than he did. The Danes of Greenland, Dr. Cook explained, knew of the discovery four months ago, but he felt reasonably sure that he could get back to civilization with the news quicker than any rumor could reach. As to what Murphy, the boatswain of the Roosevelt, might be able to communicate, Dr. Cook had no fear, as that worthy could neither read nor write and he knew who pencilled his letters for him.

"I think that on the whole," added Dr. Cook, "I have a right to announce my own news."

Dr. Cook's attention was called by one of the reporters to an assertion in the first instalment of his narrative in the Herald, to which he had referred to the secrecy of his preparations at Gloucester, which had been made even then with the conquest of the pole in view, while in the second instalment he spoke of his purpose to reach the pole as an after thought, occurring to him on the shores of Greenland.

"Well," replied the explorer; "we prepared in New York. We did not ask the government for funds; we took no private subscriptions. We were, therefore, not responsible to any one and did not have to tell of our movements. The business concerned us only. We prepared for every emergency when we left here; we arranged for a supply of provisions and for material with which to make sleds and camp work. When you have done that you have done all that was necessary for polar expeditions. As to the other part of the question, we have told and told very completely why we started out for the pole at that time. It was simply because we found a condition which was unusually favorable. The best natives and the best dogs were there within seven hundred miles of the pole. It was a condition which I have never seen before nor since. The Eskimos were very unsuccessful at that point two years before and two years since we have been there."

Still further light was thrown upon his trip by Dr. Cook in a speech at a banquet tendered him September 23 by the Arctic Club of America.

Upon his claim the organization, composed of men who have explored the frigid seas, placed the imprimatur of its approval as the one who "first" was on the "upper edge" of the earth. With them was a brilliant assemblage of the men and the women of this city, who joined with the veterans of polar endeavor in giving enthusiastic welcome to the returned explorer.

Twelve hundred persons, the second largest company ever assembled at a public dinner within those walls, pressed about the man who had found the hyperborean realm, after he had made his response to their greetings, and overwhelmed him with expressions of confidence and good will. Side by side with the men who guide the destinies of New York and with women of society stood survivors of the Greely expedition and of the quest which Mr. Peary led.

With characteristic modesty Dr. Cook gave credit for his discovery to the polar explorers who had gone before and by whose hard-won knowledge and heart-breaking errors he had learned; to his friend and backer, John R. Brad-

ley; to the Canadian government, to the wild men of the North and last of all, a casual mention of himself as the one who had at last achieved. He sought no license of his quest, as he plainly said, and he showed a calm indifference to captious criticism.

Everywhere about him were the flags of his own land intertwined with the banner of Denmark—the country which had first received him and approved him as the finder of the axial terminus of the world.

By his side sat Rear Admiral Schley, the rescuer of the Greely expedition; before him were friends and comrades of the arctic circle and leaders of the scientific world and beyond, in a box at the center of the balcony, was the wife whose devotion had inspired his achievement.

Few and eloquent were the words with which the rear admiral introduced Dr. Cook, the keynote of which was that he regretted that controversy should have arisen concerning so gallant a feat, and he repeated the words which came to him as from the past that there was "glory enough for both."

Cheers rang through the hall; men and women rose to their feet and joined in the refrain, "For He Is a Jolly Good Fellow," as the explorer rose to his feet. The applause lasted for several minutes, and then, when his auditors paused for breath, Dr. Cook read his speech in a slow, even voice.

Dr. Cook's speech was interrupted in the middle by his reference to his backer, John R. Bradley, who had gone from his place at the principal table to a group of his friends on the floor.

"Bradley! Bradley!" called many a voice. "Bradley, show yourself!" And finally he was obliged to stand upon a chair and bow his acknowledgments to the tumultuous cheers.

All that Dr. Cook said carried with it conviction, and when he finished with his tribute to the brave men who had gone before and his disclaimer for more than his share of the glory the company hailed him with every expression of confidence. It was plain that they agreed with all that Rear Admiral Schley said in his speech of introduction.

"I regret," the admiral said, "that there should have been any issue raised concerning an achievement so full of glory for both. As president of the Arctic Club of America, I believe that both Dr. Cook and Mr. Peary found the pole. They succeeded in reaching that point in the frozen seas which was so long the goal of the cherished ambitions of mankind.

"Both endure inconceivable hardships under trying circumstances. These two men reached the pole—men willing to venture into fields of prolific danger;

men who were strong and able to penetrate the farthest north and to bring back to you the story of what they have seen; all honor to them both. And, my dear friends, I now have the honor to introduce to you the man who first discovered the north pole."

Dr. Cook in his address said:

"This is one of the highest honors I ever hope to receive. You represent most of the frigid explorers of Europe and nearly all of the Arctic explorers in America. Your welcome is the explorer's guarantee to the world—coming as it does from fellow workers, from men who know and have gone through the same experience—it is an appreciation and a victory the highest which could fall to the lot of any returning traveler.

"The key to frigid endeavor is subsistence. There is nothing in the entire realm of the Arctic which is impossible to man. If the animal fires are supplied with adequate fuel there is no cold too severe and no obstacle too great to surmount. No important expedition has ever returned because of unscalable barriers or impossible weather. The exhausted food supply resulting from a limited means of transportation has turned every aspirant from his goal. In the ages of the polar quest much has been tried and much has been learned. The most important lesson is that civilized man, if he will succeed, must bend to the savage simplicity necessary.

"The problem belongs to modern man, but for its execution we must begin with the food and the means of transportation of the wild man. Even this must be reduced and simplified to fit the new environment. With due respect to the complimentary eloquence of the chairman and others, candor compels me to say that the effort of getting to the pole is not one of physical endurance, nor is it fair to call it bravery; but a proper understanding of the needs of the stomach and a knowledge of the limits of the brute force of the motive power, be that man or beast.

"Our conquest was only possible with the accumulated lessons of early ages of experience. The failures of our less successful predecessors were stepping stones to ultimate success. The real pathfinders of the pole were the early Danish, the Dutch, the English and the Norse, Italian and American explorers. With these worthy forerunners we must therefore share the good fruits which your chairman has put into my basket.

"A similar obligation is due to the wild man. The twin families of wild folk, the Eskimo and the Indian, were important factors to us.

"The use of pemmican and the snowshoe, which makes the penetration of

the Arctic mystery barely possible, has been borrowed from the American Indian. The method of travel, the motor force and the native ingenuity, without which the polar quest would be a hopeless task, have been taken from the Eskimo. To savage man, therefore, who has no flag, we are bound to give a part of this fruit.

"To John R. Bradley—the man who paid the bills—belongs at least one-half of this fruit.

"The Canadian government sent its expedition under Captain Bernier 1,000 miles out of its course to help us to it. I gladly pass the basket. In returning, shriveled skin and withered muscles were filled out at the expense of Danish hospitality. And last, but not least—the reception with open arms by fellow explorers—to you and to all, belongs this basket of good things which the chairman has placed on my shoulder.

EXPLAINS LACK OF LICENSE.

"Nothing would suit me better than to tell you to-night the complete story of our quest, but the very first telegram gives more specific data than I could hope to tell you in an after-dinner address. Therefore, I shall devote the allotted time to an elucidation of certain phases of our adventure.

"One of the most remarkable charges brought out is that I did not seek a geographic license to start for the pole. Now, gentlemen, to the large public that may be a mystery, but you who know will appreciate that no explorer can start and say that he will reach the pole. Many good men have tried before; all have failed. All who understand the problem know that success is but barely possible when every conceivable circumstance is favorable. It is only necessary to make announcement that an expedition embarks for the pole to start an undesirable bombast and flourish of trumpets. This I chose to escape.

"Mr. John R. Bradley furnished the funds. I shaped the destiny of the expedition. For the time being the business concerned us only. I believed then, as I believe now, that if we succeeded there would be time enough to fly the banner of victory. You are here to-night, Mr. Bradley is here, and I am here. We have come together to celebrate that victory.

"Now, gentlemen, I appeal to you as explorers and as men. Am I bound to appeal to anybody, to any man, to any body of men, for a license to look for the pole?

"Another criticism is the charge of our insufficient equipment. We have met this. You know that we had every possible aid to success in sledge travel-

ing. A big ship is no advantage. An army of white men, who at best are novices, is a distinct hindrance, while a cumbersome luxury of equipment is fatal to progress. We chose to live a life as simple as that of Adam, and we forced the strands of human endurance to scientific limits. If you will reach the pole there is no other way. For our simple needs Mr. Bradley furnished sufficient funds. We were not overburdened with the usual aids to pleasure and comfort, but I did not start for that purpose.

"Now, as to the excitement of the press to force things of their own picking from important records into print. In reply to this I have taken the stand that I have already given a tangible account of our journey. It is as complete as the preliminary reports of any previous explorer.

TO DELIVER COMPLETE DATA.

"The data, the observations, the record, are of exactly the same character. Heretofore such evidence has been taken with faith and the complete record was not expected to appear for years, whereas we agree to deliver all within a few months.

"Now, gentlemen, about the pole. We arrived April 21, 1908. We discovered new land along the 102d meridian between the eighty-fourth and the eighty-fifth parallel. Beyond this there was absolutely no life and no land. The ice was in large, heavy fields with few pressure lines. The drift was south of east, the wind was south of west. Clear weather gave good regular observations nearly every day. These observations, combined with those at the pole on the 21st and 22d of April, are sufficient to guarantee our claim. When taken in connection with the general record, you do not require this.

"I cannot sit down without acknowledging to you, and to the living Arctic explorers, my debt of gratitude for their valuable assistance. The report of this polar success has come with a sudden force, but in the present enthusiasm we must not forget the fathers of the art of polar travel. There is glory enough for all. There is enough to go to the graves of the dead and to the heads of the living."

CHAPTER XXVIII.

PEARY WELCOMED HOME.

While Dr. Cook was being greeted by his friends and admirers in New York, similar honors were being paid to Commander Peary in Sydney, N. F., the port he had left more than a year before on the quest that was to prove so notable.

Peary had been awaited for some days in Sydney.

At an early hour on the morning of September 21, when the Roosevelt was still edging her way along the Cape Briton coast, the steam yacht Sheelah, owned by James Ross, president of the Dominion Coal company, put to sea crarying Mrs. Peary, her daughter, Miss Marie Peary, little Robert E. Peary, Jr., and a party of friends, all eager to meet the returning explorer. Among those on board were Col. Borup, father of George Borup, a member of the Peary expedition; George Kennan, the author, and John Kehl, the United States consul at Sydney.

As the Sheelah drew alongside the Roosevelt outside a sailor on the yacht hailed the arctic ship. In reply Commander Peary came to the rail and was greatly surprised when he perceived his wife and children waving their greetings. In reply the explorer waved his slouch hat and called to them to come on board.

A few words of welcome were exchanged while the boat was being lowered. Mrs. Peary, Miss Peary and the little boy, acocmpanied by Col. Borup, then went over the side of the Sheelah, took their places in a small boat and were rowed over to the Roosevelt. In the meantime Commander Peary had retired to the cabin. Mrs. Peary and the children were assisted up the side of the Roosevelt and made their way across the deck to greet the husband and father in private. The Sheelah then put on full steam and returned to Sydney, while the Roosevelt came along at slower speed.

Commander Peary had decorated his ship for the occasion and in addition to the flags of the United States and the Dominion of Canada, the Roosevelt flew the burgee of the New York yacht club and the flag of the Peary Arctic club.

The American flag waving at the peak of the spanker gaff of the Roosevelt attracted much attention. It bore a diagonal white band on which were the words, "North pole," in black letters.

A newspaper correspondent boarded the Roosevelt at North Sydney and received from Commander Peary a new version of the dispute regarding Dr. Cook's supplies at Annotook. The explorer's attention was called to a statement received by wireless telegraphy from Dr. Frederick A. Cook, on board the steamer Oscar II, declaring that the Eskimos at Annotook had informed Peary that Cook was long since dead. Peary was asked if he entertained this opinion, and said no. On the contrary, he had left supplies at Etah in case, as might well happen, Dr. Cook should return there without food.

Meanwhile the news that the Roosevelt was only twenty miles away spread quickly, and groups of people gathered at the water front to take part in the welcome. The day was perfect and the harbor presented a beautiful spectacle, as all manner of water craft, yachts, sailboats and motor boats, displaying their colors, made their way down the bay to escort the Roosevelt to her dock.

The tug C. M. Winch conveyed the official welcoming party down the bay. This party included the mayor of Sydney, Wallace Richardson; the heads of the various city departments, and other prominent officials.

As the morning advanced business in Sydney came to an end. Stores were closed, the hotels were emptied of their guests, and the crowd on the water front increased rapidly.

Commander Peary's trip up Sydney harbor was one continual ovation. When the Roosevelt turned the point off the city the whistles of the steel works, all the steam vessels in port and the colliers united in one immense and sustained volume of sound, and the crowds that filled the esplanade and wharves cheered continuously as the arctic steamer swept slowly along. A fleet of tugs accompanied the Roosevelt up the bay and scores of carriages that had gone down to the point were driven hastily back to town and discharged their occupants, who hurried to the water front.

Consul Kehl boarded the Roosevelt down the bay and welcomed Commander Peary on behalf of the American government and the American residents of Sydney. There were no important officials of the Dominion government present to greet the explorer.

The Roosevelt proceeded direct to the ferry wharf, where 2,000 school children had been assembled. Each carried an American flag and the emblems were waved in unison the moment the explorer stepped ashore. A delegation

of ten school girls dressed in white then went forward and while Commander Peary stood at attention before them Miss Naomi Kehl, daughter of the American consul, recited a short address of welcome and presented the commander with a beautiful bouquet.

The party then entered carriages and were driven to their hotel. The police had to clear a way for them through the crowd of 10,000 people that filled the square. At the hotel Commander Peary was welcomed by the city aldermen.

At the hotel Commander Peary was soon holding an impromptu reception. Standing on the steps of his carriage, he shook hands with scores of people who struggled to reach him. Rising in his carriage, Mayor Richardson read an address of welcome from the citizens of Sydney congratulating Commander Peary on his success in reaching the pole and his safe return and wishing him and the members of his family good health and a long life.

Commander Peary expressed his appreciation of the welcome extended him. Eleven times, he said, he had sailed from Sydney for the north; once he had returned with "farthest north" and now he came back with the pole itself.

At the conclusion of the handshaking and greetings Commander Peary retired to his room.

The Roosevelt had passed the previous day at St. Paul's island and James Campbell, superintendent of the Canadian government station there, entertained Capt. Robert Bartlett and Prof. McMillan of the Peary expedition at his residence on shore. As soon as his guests were in his house Mr. Campbell turned to them and said:

"Now, gentlemen, this island is yours; what is the first thing you want?" Without a moment's hesitation and in unison Capt. Bartlett and Prof. McMillan replied:

"A glass of real milk."

Commander Peary, after leaving Sydney, made a kind of triumphal tour through Maine on a railroad train.

On his arrival in Portland the evening of September 23, Peary was given an enthusiastic welcome by a large portion of the population. He was met at the station by Mayor Leighton and the reception committee in carriages and escorted to the Auditorium, where he held a public reception.

Four companies of militia and a long procession of residents, all carrying red fire, marched behind the carriages. The streets from the station to the Auditorium were lined with people. Thousands cheered the explorer as he passed.

After the reception Commander Peary was banquetted by the cities of Portland and South Portland. At this function he was vociferously applauded by the diners and complimented by half a dozen speakers, including Gov. Fernald and President William Dewitt Hyde of Bowdoin college.

It was midnight before the dinner was over and the speechmaking began. The last speaker was the explorer himself. When he arose he was generously acclaimed.

"You know, as do I, today has been a white letter day for me," said Peary. "The splendid demonstration in this city, every foot of which I knew in my boyhood days; this splendid gathering here, that striking loyalty from the governor straight from the shoulder, the fine tribute from Mayor Leighton to Mrs. Peary, who has endured as much as I in this effort, have touched my heart as they will touch hers.

"I have been asked, 'What is the scientific value of the discovery of the north pole?' There are some things about it that are a great deal greater than the gathering of a few additional data about the earth. As long as there was a part of the earth undiscovered is was a reproach on humanity and a challenge to civilization. Another thing, it has accredited to the United States another milestone in history.

"Another fact is the satisfaction that at last a man, in spite of every obstacle, has made good."

During the journey through eastern Maine Commander and Mrs. Peary, with their children and newspaper men, occupied the chair car of the St. John express and overflowed into other coaches. Along the 350 mile route Peary was cordial and appreciative, although he appeared tired. At every station there was a cheering crowd.

At Old Town the first big demonstration on this side of the border was made. At Bangor the explorer was welcomed by thousands, and when he walked into the concourse from the train shed was given a succession of cheers. Mayor Woodman escorted him to a carriage, and, with Gen. Hubbard and members of the city council in other carriages, he was driven to a hotel, where he was entertained at luncheon. He was presented with a large silver loving cup.

Commander Peary left Bangor at 3:40 p. m. on the Bar Harbor-New York express, after a stop of three hours. At Waterville he was officially welcomed. Members of the city government in carriages, over 1,000 school children on foot, headed by a band and escorted by a company of the national guard, marched to the station, where a stand had been erected.

When the train arrived the commander was escorted to the stand by Mayor Redington. The school children, each carrying an American flag, were banked about the stand, with the guardsmen around them. As Peary mounted the stand the children cheered and waved their flags. Several thousand persons joined in the cheering.

Captain Robert Bartlett, who piloted the Roosevelt through the frozen North, told at Sydney how Commander Peary turned him back from the pole. He said:

"I really didn't think I would have to go back until I had reached the eighty-eighth parallel. The commander then said I must go back—that he had decided to take Matt Henson.

"I—well, it was a bitter disappointment. I got up early the next morning while the rest were asleep and started north alone. I don't know, perhaps I cried a little. I guess, perhaps, I was just a little crazy then. I thought that perhaps I could walk on the rest of the way alone. I seemed so near.

"Here I had come thousands of miles, and it was only a little over a hundred more to the pole.

"Commander Peary figured on five marches more, and it seemed as if I could make it alone, even if I didn't have any dogs or food or anything.

"I felt so strong I went along for five miles or so, and then I came to my senses and knew I must go back.

"They were up at the camp then and getting ready to start. Never mind whether there were any words or not. I told the commander if I was going to be any hindrance and perhaps make a failure out of it I would turn around and go back. He said I must go, so I had to do it. But my mind had been set on it for so long I had rather die than give it up then.

"When I started on the back trail I couldn't believe it was really true at first, and I kind of went on in a daze. I can tell you every lead we crossed and just how far we went on every march and all about the ice on the trip up, but as I thought of it afterward I could not remember anything about coming back until I got to the ship. Then I heard of poor Marvin, and almost envied him. But that distracted my mind until the boss returned, and then I was busy getting the Roosevelt through the ice."

THE STARS AND STRIPES, THE FIRST FLAG AT THE POLE.

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HOME SWEET HOME.

Dr. Cook in automobile passing under the magnificent triumphal arch erected near his home by neighbors and friends in Bushwick, a suburb of Brooklyn, N. Y.

CHAPTER XXIX.

PREVIOUS GREAT CONTROVERSIES OF EXPLORERS.

The Cook-Peary controversy, though it bids fair to be the most famous of the great contests of history, because of the startling facts at issue, has aroused no greater bitterness than did several previous agitations of the kind. Fifty years ago something similar aroused all those interested in exploration. It lasted for years, with ever-increasing bitterness of feeling on both sides, and was not definitely settled until long after one of the principals had died.

This was the famous dispute between Sir Richard Francis Burton and Capt. John Hanning Speke as to the source of the river Nile. Burton claimed that the great stream rose in Lake Tanganyika, of which he was the discoverer. Speke, on the other hand, declared that Lake Victoria Nyanza, which he had first seen, was the river's source.

Speke was right. After most acrimonious disputing, the question, already half decided in his favor, was answered once for all by Henry M. Stanley, who, having thoroughly explored the shores of Tanganyika, showed that it was connected, not with the Nile, but with the Congo system.

When Speke first came out in open contradiction to Burton, it seemed as if he had undertaken a hopeless job. He was merely a young officer, while Burton was already making himself known as one of the most daring, original, and versatile men that ever lived. Before his journey to Lake Tanganyika he had won world-wide fame by one of the most audacious exploits ever recorded. Profiting by his remarkable knowledge of Oriental languages, he had, some years before, disguised as an Afghan doctor, penetrated to the sacred Mohammedan cities of Mecca and Medina, where detection by the Mohammedan pilgrims would have meant instant assassination.

This Mecca pilgrimage took place in 1855, when Burton was 34 years old. In October, 1856, having succeeded in interesting influential Englishmen in the exploration of unknown portions of Africa, Burton, then a captain in the British army, sailed from home for Zanzibar with Speke, whom he had first met as an officer of the Anglo-Indian troops garrisoning Aden, on the Red Sea.

Speke was 30 years old, had seen service in India, as had Burton, and was a genuine dare-devil adventurer.

The two, organizing an expedition at Zanzibar, proceeded, first of all, to the forbidden city of Fuga, in Somaliland. Already their heads were filled with native tales of the mysterious great lakes in the interior; already Burton and Speke seemed to have entertained their contradictory opinions as to which of these was the source of the Nile. When the expedition got to Fuga the audacious officers gained admittance within its sacred limits by informing the natives that they were wizards, skilled in the curing of disease. The local Sultan, who was very ill, at once asked Burton for a remedy, but it was beyond that resourceful man's powers. When the expedition left Fuga, Burton says that he was haunted by the look in the eyes of the Sultan, hopeless of being cured, as he said farewell to the "wizards."

Returning to the coast, the expedition was attacked by hostile Somalis. A desperate fight ensued. Lieut Stroyan, one of the subordinate leaders, was killed. Both Burton and Speke fought like tigers. Eventually they reached the coast.

Burton at once organized another expedition, purposing this time to advance straight toward Lake Tanganyika. Speke was in rather an unfortunate position, having sunk much money in the disastrous Somaliland venture. Hence Burton's offer to him of the position of second in command on the Tanganyika trip was distinctly welcome. Already bad blood seems to have sprung up between the two adventurers. Speke thought that, instead of advancing through Somaliland, Burton should have taken another route toward the great African lakes. He attributed much of the ill success of the preliminary expedition to Burton's management, and seems even to have considered that the latter showed evidences of timidity.

However, on June 26, 1857, they departed from Zanzibar for Tanganyika, in harmony. Burton, always eccentric, carried some horse chestnuts tied up in canvas bags to ward off the evil eye and sickness. The expedition, in addition to Burton and Speke, consisted of two boys from Goa, two negro gun carriers, a man called Sudy Bombay, who had accompanied Burton in previous explorations, and ten Zanzibar mercenaries. Burton's avowed object was to find Tanganyika and gain for himself thereby the title of discoverer of the sources of the Nile.

At Dut'humi, in spite of his horse chestnuts, Burton got a bad attack of marsh fever. Here hardships began in earnest for the rest of the expedition's

members, too, for all the riding asses died. But Burton, in spite of his own worries, found time to head a raid against some Arab slave traders, whom he defeated, thus freeing a number of captives who were being dragged away from their homes.

After traversing a land where a great part of the natives were dying of smallpox, the expedition reached a beautiful country, over which great herds of zebras and antelopes roamed. This, however, did not last long. Beyond it were dreary swamps. The Zanzibar mercenaries grew mutinous. Time and again, when all else failed, Burton used a star sapphire which he carried as an amulet, to enforce obedience from the superstitious negroes. In spite of the awe that he inspired in them, they plotted to kill him. While hunting one day, followed by two negroes, who were not aware that he spoke their dialect, he overheard them arranging to take his life. Without a word, without even turning, he thrust his dagger backward, stabbing one to death. The other, falling on his knees, begged for mercy.

On another occasion some more plotters, having made their plans around a wood fire, went away to gether more wood. Burton, stealing up, put a canister of powder among the embers. When the assassins returned and kindled the fire anew "there weren't any assassins," as one of Burton's biographers succintly puts it. Both these stories, though not printed in any of Burton's works, were told by him to intimate friends on his return from Africa.

After passing through a realm where no self-respecting man, from King down, was sober after midday, and where obesity and beauty were synonymous terms regarding women, the explorers on Feb. 13, 1858, saw "a long streak of light."

"Look, master, look!" shouted the Arab guide, "behold the great water!" It was Lake Tanganyika.

The two Englishmen set about the exploration of the great lake's shores, but were not very thorough. While in a boat they were caught in a terrible storm, during which they despaired of ever reaching land again.

They set out from Tanganyika for the coast on May 26, 1858. Burton and Speke were both suffering severely from malaria and complications: in fact, part of the time the former was nearly paralzyed, the latter almost blind.

When they reached Kazeh Speke announced to his chief that he desired to look for another lake, which he understood from the natives was somewhere in the neighborhood. Whether owing to illness or other reasons, Burton refused to accompany Speke on this side trip. Moreover, he seems to have made

himself disagreeable regarding guides and supplies. But eventully Speke set out. He made Burton a promise that he would return to Kazeh within a certain time and resume the march to the coast.

After a difficult advance Speke, like "stout Cortes" of Keats' sonnet, ascended a hill, and beheld before him a great sheet of water. He described his first impressions in these words:

"The vast expanse of the pale-blue waters of the Nyanza burst suddenly on my gaze. It was early morning. The distant sea line of the north horizon was defined in the calm atmosphere, between the north and west points of the compass, but even this did not afford me any idea of the breadth of the lake, as an archipelago of islands, each consisting of a single hill, rising to a height of 200 or 300 feet above water, intersected the line of vision to the left, while on the right the west horn of the Ukerewe Island cut off any further view of the distant water to the eastward of north."

Speke, in fact, seems never to have had an accurate idea of the vastness of the lake that he discovered. However, as he contemplated it he felt absolutely assured that, after centuries of conjecture, the source of the Nile was at last no secret.

He stayed about the lake, which he called Victoria Nyanza in honor of the Queen of England, for some time, gathering a great deal of lore about the natives, as was his wont, and much other valuable data. Then remembering his promise to Burton, he retraced his steps, arriving at Kazeh about six weeks after he had left it.

He told Burton that he felt convinced that Lake Victoria Nyanza was the source of the Nile. Burton promptly ridiculed this idea. To Lake Tanganyika, he insisted, belonged the honor. The two explorers got into bitter dispute. All the way to the coast they were distant and unfriendly to each other; the affectionate "Dick" and "Jack" of their previous intercourse were now replaced by the icy "Sir."

When they reached the coast Burton lingered to wind up the expedition's affairs, but Speke—unfairly, as Burton and his friends maintained, hurried to England with the news of his discovery of Victoria Nyanza and his belief that it was the long-sought Nile source. He arrived in England May 9, 1859. Immediately his statements aroused immense enthusiasm. Sir Roderick Murchison, President of the Royal Geographical Society, accepted them without question, as did many other well-known men. Burton's discovery of Lake Tanganyika was entirely overshadowed. On all sides Speke was urged to return to Africa and make certain his theories about Victoria Nyanza.

Burton came back to England on May 22, two weeks later than Speke. He found the "ground cut from under his feet," says his biographer. Already Speke was lecturing "vaingloriously" at Burlington House and writing articles for Blackwood's Magazine. Burton lost no time in getting into the fight. He vigorously championed his view that Tanganyika was the true Nile source. The controversy was fairly under way.

In 1860 Speke set forth anew from England to prove the worth of his contentions. With him this time went Capt. James Augustus Grant, "a man after Speke's own heart," described by another explorer, who knew him well, as "one of the most loyal and charming creatures in the world."

The two reached Lake Victoria Nyanza and made careful explorations of its shores. In the course of these Grant broke down. Speke was compelled to continue his investigations alone. On July 17, 1862, having followed the Nile northward from Victoria Nyanza, he arrived at the first great cataract from its source, which he called the Ripon Falls, after Lord de Grey and Ripon. His theory was now practically proved to be correct.

Picking up Grant again, Speke descended the Nile, but crossed it at Karuma Falls to avoid the territory of Kamurasi, a local King, who had shown signs of hostility. Though they did not know it, the two explorers were only fifty miles from the junction of the Victoria Nyanza with the undiscovered Lake Albert. If they had but kept to the river for only a few marches more they would have found the latter lake, the second great source of the Nile.

As it was, they arrived, on Feb. 15, 1863, at Gondokoro, the highest point on the Nile to which explorers had arrived before them, and there found Samuel Baker. Speke handed over to the latter all the notes that he had taken, and by their aid Baker soon after discovered Lake Albert Nyanza.

On his return from this momentous expedition the only reward received by Speke from the British government was the permission to add to the supporters of his coat-of-arms a hippopotamus and a crocodile.

On his return to England Speke at once set about showing that he had definitely settled the great question regarding the headwaters of the Nile. Even those who admire him admit that his attitude toward Burton, though never unfair, was hard and pitiless. On the Somaliland and Tanganyika expeditions, he seems to have acquired a dislike for his famous companion from which he never freed himself. Fresh attacks by Burton on Speke began to thicken about four years after Speke's return from his second expedition. They were heated enough, but lacked the younger officer's incisiveness.

Burton's main object, of course, was to belittle Speke's discovery of Victoria Nyanza. He tried to show that that lake was of no special importance, merely a network of swamps and small lakes, and was overjoyed when Samuel Baker, on returning from his explorations subsequent to those of Speke and Grant, claimed that the Victoria Nyanza was the ultimate source of the White Nile, not of the main river. Burton maintained that the Rusizi River flowed out of the northern end of Lake Tanganyika, instead of into that lake, hoping thus to prove that connection existed between Tanganyika and Lake Albert. If successful, he realized that his would materially reduce the importance of the discovery of Victoria Nyanza. He even published a map to illustrate his theory, and worked hard to make geographers agree with him.

The argument in print finally became so fierce that a joint debate between the two rivals was arranged, to take place at Bath, Sept. 15, 1864. Instead of the debate, Bath saw an astonishing and impressive scene of quite a different sort.

"The great day arrived," says Thomas Wright, Burton's biographer, "and no melodramatic author could have contrived a more startling, a more shocking denouement. Burton, notes in hand, stood on the platform, facing the great audience, his brain heavy with arguments, bursting with sesquipedalian and sledge-hammer words, to pulverize his exasperating opponent.

"The Council and other speakers filed in. The audience waited expectant. To Burton's surprise, Speke was not there.

"Silence having been obtained, the president advanced and made the thrilling announcement that Speke was dead. He had accidentally shot himself that very morning while out rabbiting.

"Burton sank into his chair, the working of his face revealing the terrible emotion he was controlling, and the shock he had received. When he got home he wept like a child."

Burton's emotion was not deep or lasting enough, however, to prevent him from hinting that Speke had committed suicide, fearing to face him and his arguments. He had absolutely no justification for such an assumption. His very biographer, avowedly his partisan, wherever possible remarks, that "it was eminently characteristic of Burton to make statements resting on insufficient evidence."

But it was all useless. Speke was right and Burton wrong. In 1870, Stanley terminated successfully his world-famous search for Livingstone by finding the latter at Ujiji, in the Tanganyika region. Together the two ex-

plorers voyaged along the northern shore of the great lake which Burton had discovered, and proved conclusively that it had no outlet connecting with the Nile basin.

In March, 1873, Lieut. Cameron, heading another Livingstone relief expedition, met followers of the latter bearing Livingstone's body to the coast. Cameron, however, continued on his way, explored the shores of Tanganyika, and not only corroborated Stanley and Livingstone regarding the non-existence of an outlet toward the Nile, but advanced the opinion that the great lake was a part of the Congo system. This was made absolutely certain in 1874, when Stanley made his celebrated journey from Bagamoyo to Victoria Nyanza and Tanganyika, thence by Nyangwe, on the Lualaba, down the Congo to the sea, verifying all that Cameron had conjectured.

Thereupon no more was heard from Burton as to the Lake Tanganyika's being the source of the Nile.

Farther back in history are records of other explorers failing to convince the world of their deeds.

It is the irony of fate that though Columbus discovered America this continent should be called not after him but after Amerigo Vespucci. According to the latter's own story, which is the only authority the world has for the assertion, Vespucci was the first to discover the mainland of North America, having reached here in 1497, several months before either the Cabots or Columbus. Columbus's discovery was what started Amerigo Vespucci to voyage westward. The firm in which he was a partner fitted out Columbus's later expeditions and it was with one of these that Vespucci sailed, just as it was with Peary that Cook first sailed to the Arctic. However, this continent is named America and not Columbus.

Another notable instance of a real discoverer losing credit for his achievement is that of Verrazzano. That he really discovered the Hudson River in 1524 is a historical fact, proved by his log and by letters of his which are still extant. How far up the river he sailed is a matter of doubt, but it is certain that he sailed into New York Bay sufficiently far to see and describe Manhattan Island. Husdon explored the river that bears his name eighty-five years later, in 1609. The reason that Hudson received the credit for it is to found in the fact that the early settlers were Dutch and English. They knew all about Hudson; few if any of them had ever heard of Verrazzano. Eager to claim credit for a man of their own race, historians dismissed Verrazzano with a line, while they told the full story of Hudson's discovery.

CHAPTER XXX.

VALUABLE ANIMALS OF THE ARCTIC.

The North Pole discovery is bringing a new discription of the dog. In an earlier chapter were described some of the queer traits of Eskimo canines—the animals to which, more than to anything else, perhaps, Dr. Cook owes his success. Further details of the habits and uses of these animals may here be given.

The dog has probably reached the highest point in his personal, economical and ethical value to man individually, humanity as a whole and the world's progress by the part he has played in polar expeditions. Whether to the South or the North Pole, no voyage has been planned without counting upon the dog as an important if not vital factor, and no explorer has ever returned from his trip into the regions of eternal ice without paying a tribute to the value and devotion of the dog.

Dr. Fridtjof Nansen is especially enthusiastic in his references to the importance of the dogs in polar expeditions, and in his "Farthest North" is to be found this reference to them, showing not only his appreciation of them as helpers, but his fondness for them as companions:

"I kept an anxious eye upon the dogs, for fear anything should happen to them, and also to see that they continue in good condition, for all my hopes centered in them. . . . I wrote in my diary: 'In the afternoon one of the black and white puppies had an attack of madness. . . . This makes the fourth that has had a similar attack.' . . . Later I wrote: 'Another of the puppies died in the forenoon from one of these mysterious attacks, and I cannot conceal from myself that I take it greatly to heart, and feel low spirited about it, I have been so used to these small polar creatures living their sorrowless life on deck, romping and playing around us from morning to evening, and a little of the night as well. I can watch them with pleasure by the hour together, or play with them as with little children, have a game at hide and seek with them around the skylight, the while they are beside themselves with glee.

"'It is the largest and strongest of the lot that has just died, a handsome dog; I called him "Lova" (Lion). He was such a confiding, gentle animal, and so affectionate. Only yesterday he was jumping and playing about and rubbing himself against me, and to-day he is dead.'"

Captain Otto Sverdrup, Dr. Nansen's companion and a leader of expeditions himself, thus writes of the dog in his "New Land":

"There are two indispensable adjuncts to the carrying out of polar research, and these are 'ski' and dogs. . . . For my own part I am inclined to believe . . . the Eskimo dog is an ideal companion on a polar expedition. I have had the opportunity of seeing the action of various breeds of dogs upon the polar ice, but none of them come up to the Eskimo dog. It has the persistence and tenacity of the wild animal, and at the same time the domestic dog's admirable devotion to its master.

"It is, so to speak, the mildest breath of nature and the warmest breath of civilization.

"As a draught animal it surpasses all other breeds. . . . If it may be said that polar research without 'ski' is extremely difficult, it may be safely said that without dogs it is impossible; and, so far, they are right who say that the question of reaching the pole is simply and solely one of dogs."

One of the great advantages of the Eskimo dog on a polar expedition is his ability to eat anything and everything or nothing. Captain Sverdrup writes:

". . . In weather of this kind a ration of one pound is too little for such big and strong animals, and no matter how sustaining the food may be in itself the quantity is insufficient. . . . Gammelgulen had tried to rectify matters by getting his muzzle off and eating it; he had then appropriated those of his companions, first gnawing them off and then consuming them. The traces had gone the same way, including the iron swivels, and only a little was left of the harness."

It is this matter of food that makes the dog the one and only animal the polar explorer is able to use to advantage. Had the horse been possible or the reindeer easily available the necessity of carrying food for them—corn, oats and fodder—would prove an insuperable difficulty, but the dog is carnivorous. He feeds on blubber, walrus skin, fish, bear or musk ox—food that is to be found all along the journey to the pole, or he can feed on the carcass of his fellow.

His tractable character and the combined strength of an obedient pack, to-

gether with his auto-solution of the food problem, render him the obvious, simplest and practically only answer to the question of polar transportation.

The Eskimos have used the dogs for transportation since the earliest days. Martin Frobisher reports their use by the Eskimos in the sixteenth century. The Russians made use of the dogs in the seventeenth and eighteenth centuries in charting the coast of Siberia. Many dogs and few men has always been the policy of Arctic explorers.

Dr. Nansen owed the success of his expedition to his dogs. The hardships of his memorable journey with Johansen would have been insurmountable without his canine companions. The journey was severe upon the dogs, and many of them had to be killed to provide food for their fellows. Dr. Nansen says:

"On Wednesday evening Haren was killed. Poor beast, he was not good for much latterly. But he had been a first rate dog, and it was hard, I fancy, for Johansen to part with him. He looked so sorrowfully at the animal before it went to its happy hunting grounds or wherever it may be where good draught dogs go to, perhaps to places where there are plains of level ice and no ridges or lanes."

Dr. Nansen's dogs were mostly of the white or white and black Samoyede breed. With its pointed muzzle and sharply erect ears, its strong bushy tail and short body, the dog is obviously of the Spitz type, but the wolf nature is always more or less apparent and the white Arctic wolf undoubtedly contributed largely to its origin.

The Eskimo dog is larger and more nearly allied to the wolf. He is sturdy, well boned, has a long, snipy muzzle and erect triangular ears. The eyes are set obliquely like those of a wolf, and the jaw is formidable and full of strong, white, pointed teeth. He has a strong, arched neck, a broad chest and muscular quarters, and is apparently made for work, having an almost tireless endurance. His tail is long and bushy and his coat is dense, hard and deep, especially on the back, where it may be from two to four inches deep, with a woolly undercoat, which resists the penetrating snow and cold. In color it is the same as that of the wolf, black or rusty black, with lighter grayish markings on the chest and tail. Often there is a pure white dog. In all there are the characteristic light spots over the eyes.

The Eskimo dog does not habitually bark, but has a weird, wolfish howl, and is thievish and destructive. He leaves the bones of a fish as clean as if they had been scraped by a surgical instrument. Each team has its king, which

is not always the strongest, but usually the most unscrupulous bully and tyrant. They are monogamous in their mating, and interference with their domestic relations on the part of an outside dog results immediately in a fight to the death.

Six Eskimo dogs can pull a load of eight hundred pounds seven miles in an hour. Kane was carried for seven hundred miles at the rate of fifty-seven miles a day. The record speed of dogs pulling a load was attained in the case of the rescue of a sailor in Lieutenant Schwatka's expedition.

"He was seen at a distance of ten miles across an ice covered bay, just at nightfall," relates "The New Book of the Dog." "To leave him there would involve his death from frost bite, and two Eskimo natives, with a double team of forty dogs, were sent to fetch him. The runners were 'iced' and the men armed with knives to cut adrift any dog that might lose his footing, for there was no stopping when once started. They did the ten miles in twenty-two and one-half minutes."

The Eskimo dog is largely used in the Northwest, but a halfbreed is considered better. Many are a cross between the Eskimo and the wolf, but the superlative dog for hauling is the offspring of the Eskimo and what is known in Canada as the staghound. For speed, strength and staying power these are second to none. Many breeds, however, are employed, including the pure Newfoundland, which is too heavy and clumsy for winter traveling. The Hare Indian, or McKenzie River dog, was formerly used, and even the greyhound and spaniel.

The "huskies," so frequently referred to in Jack London's "Call of the Wild," are of the Eskimo and wolf cross, and the "geddies" are of like origin, bred specially by the Indians for hauling purposes. These last are willing workers, declares "The New Book of the Dog," but vicious brutes, who fight their way through summers of semi-starvation and winters of ill treatment, hunger and the lash.

In the Hudson Bay territory four huskies are harnessed to the sled in tandem order, the harness consisting of saddles, collars and traces. The leader, or "foregoer," sets the pace, and changes his course at a word from the driver, who, whatever his nationality, speaks to his team in the patois of the North. "Hu!" and "choic!" anglicized to "you!" and "chaw!" are the words necessary to turn the foregoer to the right or left. The team is started by "mush!" a corruption of the French word "marche," meaning "march." The sled or steer dog is the heaviest and strongest of the team, trained to swing the ten foot long sled away from any obstacle.

Some of the Indians and Eskimos have a separate trace for each dog, which enables the team to spread out fanwise when travelling over the ice, but for land journeys the tandem team is considered better alike for speed and safety.

In the Northwest the harness is made of moose skin and is often decorated with ribbons and little bells. The dogs seem to enjoy the tinkling, and if the bells are taken away from them they sulk and do not go half so well. As a protection against frozen snow the feet of the dogs are protected with skin shoes. In summer the dogs are turned loose and go off by themselves in packs, but before the winter comes on they return to their old masters, usually accompanied by puppies.

Next to the dog, probably, the most valuable animal to the Eskimo is the reindeer. In Uncle Sam's territory of Alaska this is recognized to the extent of placing the animals under government supervision. Tens of thousands of them are kept at Wainwright, Alaska.

An encouraging feature of the work there, far from markets and utterly shut out from any considerable contact with white men, is the fact that the native is slowly but certainly coming to recognize the great possibilities of the reindeer industry. While every effort has been made to give as many natives as possible an interest in the herds by direct ownership of some of the deer, the owners of deer are still a very small minority.

So valuable has a Government apprenticeship come to be considered that it has often been the deciding factor in determining the outcome of the dusky love affairs.

"When you get some reindeer I will be your wife," says the Innuit maiden with the tattooed chin. These wise young ladies know that the ownership of deer carries with it as a usual thing three or four years of first class Government rations and piles of cloth and clothing which Uncle Sam throws about in the Arctic with a generous hand. So among the natives there is developing a sort of reindeer aristocracy quite at variance with the old democratic, communistic ideas of the others who hold no property worth while and who have not been favored by the Government.

If the moss is poor the deer may feed for six hours at the end of which time they are driven back to the vicinity of the camp and allowed to remain there until the next feeding time, while the ease loving servants of the Government sleep or whittle fine old ivory into curios to be traded off on the ships for the tobacco which Uncle Sam overlooked in ordering the shiploads of supplies which annually find their way to the reindeer camps of Alaska.

True there is other work to be done. Every spring along comes fawning season and the deer herders have to stand watch day and night by turns. Now and then the long, wild note of the Arctic wolf is heard through the midwinter gloom and a constant watch must be kept by well armed men. The repeating rifle made wolves so scarce, however, that dogs are by far the greatest source of danger.

It seems utterly impossible to train the malamoot dog to herd deer. At sight of a deer the tamest malamoot becomes as uncontrollable as though he had never known human restraint and were once more a plain wolf.

Besides guarding the herd occasionally from these dangers there are sled deer to be trained, and every June there is a kind of roundup, when the young fawns are marked, along with all deer that have changed owners during the year. In the ear of each Government deer a little aluminum button is riveted securely, but all private owners and herders have a mark which must be registered with the local superintendent and also at Washington. This mark is made by cutting the ear.

So far the native in the Far North has made almost no use of the wonderfully rich milk of the reindeer. This milk, which is as white as the Arctic snows, is at least 90 per cent cream. In fact it is practically all a rich, snow white, sugary cream. It is the most nourishing milk in the world, but the Government has so far supplied the camps with condensed milk, and the herders have preferred opening cans to milking deer.

Unlike the Laplander, the Eskimo does not make a pet of his favorite deer. When he wants to milk her she is lassoed and thrown down. When her legs are carefully tied with walrus skin strings and her horns are safely held by some stout friend, the process of milking begins. When the last drop is extracted the highly indignant animal is unlashed and allowed to get up and go about her business.

Sometimes a horn is knocked off or a leg broken before the struggling reindeer understands that she is to be milked and not branded or butchered. Under the circumstances the dairying feature of Arctic life is not very prominent and the milkmaid's song is not welcomed by the wise little animals that have undergone the torture of one milking.

As only a limited number can be appointed apprentices every year and thus draw Government rations, many are now trying to get deer from other natives without waiting for Government favors. In this few have succeeded, for the owners, recognizing their great value, are running the price of female rein-

deer skyward. With the destruction of the country's game and the rising standard of life among the natives the population will come more and more to depend upon the reindeer industry, which will doubtless develop rapidly.

Living in a savage state of society with no other domestic animal than the half tamed malamoot dog, the process of teaching the Eskimo here how to take care of deer has been slow. Severe measures have had to be resorted to in many cases to compel the natives to keep their dogs from the deer camp.

Also it has been found difficult to prevent those who have no deer from shooting the unfortunate animals that stray away from the herd. These are considered legitimate prey and until recently were hunted the same as caribou. This year, however, a great many of these stray deer have been picked up and put back into the herds which they had deserted.

It has thus been found necessary to put the native herder through a course of training. Those who get their deer directly from the Government serve an apprenticeship of four years. They are bound by a written contract the strict terms of which they cannot violate without peril of losing their annual allotment of reindeer and suffering discharge from the service.

During the first three years of their apprenticeship they receive in addition to the reindeer a generous supply of food free of charge. Cloth, clothing, traps, guns and ammunition are also given to the fortunate apprentice, who soon becomes a person of consequence in the community. For these Governmental favors the apprentice is supposed to take care of his own deer and to assist in caring for the Government deer.

The work of the herder in a reindeer camp is not arduous and seems to be especially attractive to the carefree native. Ordinarily the deer have a way of taking care of themselves that suits the native. Every day an apprentice drives the herd to some feeding ground where they feed while the herder saunters about or hunts ptarmigan or other game near at hand.

CHAPTER XXI.

MARVELS OF THE YEAR 1909.

The year 1909 will stand out on the page of histories yet to be written as the "Year of Marvels." Some of its deeds glow with a luster that fairly dims the eye. Records have been broken in many fields of enterprise. Invention has reached its highest level.

All aviation records were broken at Rheims in August, 1909, although they do not discount Louis Bleriot's achievement in flying across the British Channel and the records of the Wright Brothers in America. Henry Farman, the French aviator, flew the greatest distance ever covered during a continuous flight in an aeroplane. This memorable flight, which is officially recorded as 118.06 miles was made August 23 last, in the remarkable time of three hours, four minutes and 56 2-3 seconds. The actual distance of the flight, however, was 140 miles. This world-beating record won for Farman the $10,000 prize offered by the Champagne district syndicate for the aviator who could cover the greatest distance in the air.

Glenn H. Curtiss, the sole American contestant, holds the world's record for the fastest flight. He covered 18 3-5 miles in 23 minutes and 29 1-5 seconds, or at a speed of nearly fifty miles an hour. This record won for him the International Cup and $4,000.

Louis Bleriot covered the course of 6 1-5 miles in 7 minutes and 47 4-5 seconds and Hubert Latham reached the greatest height—490 feet.

These records beat the records of Orville and Wilbur Wright but slightly. Orville Wright remained aloft more than an hour on three different occasions at Fort Myer while Wilbur Wright made a hundred miles in two hours and eighteen minutes. Orville has met the United States Government's requirements by flying five miles and back in his aeroplane, carrying a passenger, at an estimated speed of 42 miles an hour. For this achievement made on July 30, he and his brother were paid about $30,000, the Government having offered $25,000 for an aeroplane that would carry a passenger at the rate of forty miles an hour and a bonus of 10 per cent for each mile in addition to the forty.

The greatest record for dirigible balloons was made by Count Zeppelin, who covered 450 miles in the Zeppelin III.

Close on the heels of the splendid achievement of the discovery of the North Pole came an achievement in many respects as wonderful—a four day boat across the Atlantic. The giant Cunard steamship Lusitania, which arrived in New York Sept. 3, 1909, made the course from Daunts's Rock Lightship to the Ambrose Channel Lightship—over which all ocean records are computed—in four days, 11 hours and 42 minutes. This time clipped three hours and 10 minutes from the previous best record which was made by the Mauretania, her sister ship. Throughout the entire trip the Lusitania averaged 25.85 knots —another record in itself.

Less than a hundred years ago it took at least thirty days to cross the Atlantic. Frequently it required two months. It was not until 1885 that a ten day boat was a reality. From that time the steamship lines have reduced the passage hour by hour and day by day until 1907 when the first five day boat appeared.

While records were being broken on land and sea and air, other records were being made below the surface of the water.

The Octopus, a submarine built for the United States Navy, broke the world's record on May 22 last by reaching the remarkable speed of more than eleven knots an hour under water. According to the official report made to the Secretary of the Navy, the Octopus covered a mile at the rate of 11.6 knots, the best previous record being 8.5 knots, made by a British submarine last year. In the diving test she went down at an angle of eight degrees to a depth of twenty-six feet in a fraction less than forty seconds. The best previous record for such diving was forty-six seconds, made by the Fulton, of the Octopus type. In addition, the Octopus, while going at full speed on the surface dived to a depth of twenty feet in four minutes and twenty seconds, the best previous time being eleven minutes.

A world's record for depth of submergence with a crew aboard was made by the Lake, also a United States submarine, on May 23, when she went down 135 feet. The best record previous to this was 130 feet, made by a French submarine.

Thus it will be seen that the United States Government has submarines that are superior to any others in the world and there are now 104 in actual commission in the several navies and one hundred more are authorized or building. It is predicted that within two years submarines with a submerged

speed of fifteen knots will be built, but many experts believe the present records will stand for a longer period.

One of the greatest submarine exploits of recent years was made by Lieut. Kenneth Whiting, an American naval officer, in the harbor at Manila last month. He demonstrated that it was possible to escape from a submerged submarine by being shot through the torpedo tube.

Mountain climbing records were broken in 1909 in several parts of the world. The Duke of the Abruzzi in July reached the highest altitude ever before attained by any human climber. With his Italian party he climbed Mount Goodwin-Austen in the Himalayas to the height of 24,600 feet. The best previous record for altitude was made by W. W. Graham in 1883, when he climbed Mount Kabaru in the Himalayas to the height of 24,015 feet. Thus it will be seen that the famous Italian Duke exceeded this record by 585 feet.

Mount Goodwin-Austen is the second highest peak in the world. Mount Everest is the highest—29,002 feet—but as yet no one has succeeded in reaching its summit. The height of Mount Goodwin-Austen is 28,250 feet. so that the Duke of the Abruzzi had 3,650 feet to go to reach the top when he turned back.

While the cousin of the King of Italy was climbing the Himalayas Walter S. Bond of New York City was breaking records in the Alps. He climbed Mount Blanc from Chamounix in nine hours. The best previous time was made by Morehead, an Englishman, in 1865, when he made the ascent in nine hours and a half.

The record for circling the globe was broken in August, 1909—also by Americans. Two New York school boys, Walter Drew and John Munnich, accompanied by the Rev. A. A. King and J. J. Conway, made the trip around the world in 41 days and 8 hours. This record was made in little more than half the time prophesied by Jules Verne in his famous book "Around the World in Eighty Days." Nellie Bly made the trip in 67 days in 1890 and for years this stood as a remarkable achievement. The best previous record until last month was 43 days.

If it had not been for a bad wreck and other unavoidable delays, causing the party to miss steamboat connections, the trip around the world would have been made in 35 days. Indeed, if all the trains and steamships run on schedule time, it is practically possible to make the trip around the world in thirty days.

Although Edward Payson Weston failed in his attempt to walk across the continent from New York to San Francisco in 100 days, the fact that he accomplished the 3,000 mile journey in 105 days broke all previous records.

Great strides were made in wireless telegraphy during the year. Only eleven years have elapsed since the time of Marconi's wireless signal at Flatholm and six years since the exchange of wireless messages across the Atlantic between Cape Breton and Cornwall. During the year the globe was virtually girdled with wireless stations—at Nome, in Hawaii, Hong-Kong, Burmah, Mozambique, Trinidad, Tripoli. Paris talks with Messina, press reports are flashed across the Atlantic, steamships at sea receive daily bulletins. In the winter of 1909 the lives of all the passengers of the steamship Republic were saved by wireless, and after that time the passengers of no less than a dozen other ships were saved in the same way.

Wireless messages can now be sent regularly 3,000 miles over water and 1,000 miles over land. On May 3, 1909, the first wireless messages were sent between New York and Chicago—the record distance by land up to the present time. Stray messages have been picked up at much greater distances, but of course they do not figure in records. They are considered flukes. Nova Scotia to Paris—3,000 miles—is the record up to date. The crowning demonstration of the usefulness of wireless, however, is the summoning of aid to a ship in distress. Such projects as a wireless fire alarm system for the preservation of forests and wireless weather reports from coast stations are but new fields of endeavor.

Practicability of wireless telephony has been demonstrated and the warships of many navies are now equipped with wireless telephones. The United States Navy was the first to install them, and the best records have been made between our battleships. Until 1908, 200 miles was the farthest that messages could be transmitted, but in March 1909 wireless telephone messages were sent by Dr. Lee DeForrest from the Eiffel Tower in Paris to Marseilles, a distance of 550 miles. This is the record up to date. Great progress is being made by Dr. Lee DeForrest and other inventors, and they predict that the time is not far distant when it will be possible to telephone across the Atlantic.

The year was the greatest for speed records in the history of the world. It was demonstrated at Clayton, N. J., in December, 1908, that steam driven engines are still king, and that they can run as fast on a curved as on a straight track. One of the big locomotives on the Pennsylvania Railroad in a test held December 5 made a fraction more than ninety-nine miles an hour. This is the world's record for steam locomotives.

The record speed for electric locomotives is ninety-two miles an hour. This record was made December 6 at Clayton, N. J., by Electric Engine No.

028, belonging to the New York, New Haven and Hartford Railroad and known as the Jamestown Exposition engine.

It has been demonstrated that trains can be run with safety at a speed of ninety miles an hour, although it takes three or four times longer to stop a train going at that speed than one going sixty miles an hour.

A new record was made in August, 1909, in pulling heavy loads by rail. An engine on the Virginia Railroad pulled ninety cars, each laden with fifty tons of coal, a distance of 243 miles, breaking all previous records for heavy hauls.

World's records went to smash in August at the new motor speedway at Indianapolis. Lewis Strang won the fastest 100-mile race ever held, in 1 hour 38 minutes 48 4-10 seconds. Strang made a new twenty-five-mile record, going that distance in 23 minutes 20 seconds. A new ten-mile record was made by Zengell in 8 minutes 56¾ seconds.

Ever since the opening of this century scientists have been indulging in most hopeful "peeps ahead" at probable future achievements.

William Marconi, the inventor of wireless telegraphy, predicts that all rapid transit will be made by airships within the next fifty years, and that the storage battery will take the place of coal and fire and water.

"Within the next fifty years," he declares, "coal will cease to be our only source of energy. It may be that helium, which Prof. Onnes has succeeded in liquefying at the incredible temperature of 455 degrees below zero, may lead the way to an unsuspected source of energy and heat.

"Personally, I believe the harnessing of the sun's rays will be the next big scientific achievement. In every land men of science are patiently studying the problem of utilizing the energy of the sun—storing it, in fact—so that the generation of electric force may be cheapened by its use to a point where the storage battery on a large scale will be an economic as well as an academic possibility. The wasted energy in coal, as now used, may in the interval, be brought to do its work and so bring about the monster storage battery sooner than we now expect. But sooner or later we shall enslave the sun's rays to our uses."

Thomas A. Edison shares Marconi's belief that scientists will some day control the energy stored in coal without waste.

"Ninety per cent of the energy stored in coal is now lost," he said recently. "It goes off in heat from the chimneys, and is especially wasted in the process of converting water into steam. However, I predict that means will be devised

by which this enormous waste will be saved. When it is done the production of power will be revolutionized. The result will have an incalculable influence upon the material progress of civilization. It will enable an ocean liner to cross the ocean in three days with an expenditure of about one-tenth the amount of fuel now required.

"Within a few years electricity will run the world. It is bound to do so. The greatest enterprises to-day are those on an electrical basis. Electricity and nothing else will be the great force of the future."

Bishop Samuel Fallows of the Reformed Episcopal Church predicts that we will soon be able to talk with spirits as we now talk with material persons.

"Telepathy is an established fact," declares the Bishop, "and such strides have been made in the explanation of psychic phenomena in the past few years that within the next few years we will be able to converse with the spirits of departed friends and relatives. Their state will be made known to us through the science of 'immortalism,' which is spiritualism with the 'fakes' left out. Immortalism will be studied by the masses just as they now delve into Latin, arithmetic, geography or grammar. All the great discoveries of the future are going to be made along the lines of mental telepathy."

Dr. James H. Hyslop, secretary of the American Society of Psychical Research, is only one of many distinguished scientists that have expressed a firm conviction that before the close of the present century the psychic riddle will have been solved and psychic knowledge and tests will have been reduced to an exact science.

"It is going to keep us busy collecting facts for a long time," Dr. Hyslop declares. "Many more years may elapse before we succeed in proving our theories as to the nature and uses of the spirit forces surrounding us.

"A world beyond the senses is already a settled fact, a fact certified to by scientific investigation and without appeal to exceptional phenomena. This conviction is reinforced by the phenomena of X-ray, wireless telegraphy and radio-active substances.

"The field of psychopathology will soon be occupied for both philanthropic and scientific work. An institute for psychic research will provide for study and therapeutic treatment of certain types of functional mental diseases—insanity, hallucination, secondary personality and such troubles as may yet be made to yield to hypnotic suggestion."

Telegrams, telephones and letters no longer necessary, better health and longer life, sex determined before birth, and the development of a race of

geniuses—that these and many others will be the practical results of the psychological research now being conducted throughout the world is the assertion of Floyd Wilson, a psychologist and occultist of New York. Mr. Wilson, who is the author of several important works on psychology and a member of both the New York and London Societies for Psychological Research, believes that the psychic age is at hand and that it is only a question of a few years until practical results will be demonstrated.

"The time is not far distant," says Mr. Wilson, "when telegrams, telephones and letters will be a thing of the past. Mental telepathy will take their place. At the present time a comparatively few people are able to transmit their thoughts to each other in this manner, but it is within the possibilities of every one. When we know more about it, as we assuredly shall, it will not be necessary to transmit our thoughts by physical means. Mental telepathy will supplant all forms of present communication.

"And when you stop to consider it, mental telepathy is no more wonderful than wireless telegraphy or wireless telephony. The principle is practically the same—space is annihilated and without physical connection.

"That our health will be better and our lease on life longer in the years to come goes without saying. Poor health, to a great extent, is due to a condition of mind. By thinking health people will keep in good health, and by determining to remain young, or at least by determining to keep from getting old, old age may be staved off many years. Of course, people will get sick and die, just as they do to-day, but illness will be less prevalent and death will be postponed longer."

Dr. Lee F. De Forrest, in the current number of The Scrap Book, writes: "It is now possible to say we will soon be able to talk across the ocean, and over still greater distances. In fact, I think I can predict, without too great a strain on the imagination, that in the future, and not so far off, we will be able to talk around the world—in relays, perhaps, but so arranged as to be almost instantaneous. It is as sure as arithmetic that within the next few years every vessel of a few hundred tons will carry the wireless telephone. From recent experiments, I feel certain that within a short time we shall be able to be in wireless communication between our station, atop the Metropolitan Tower in New York and the Eiffel Tower in Paris."

CHAPTER XXXII.

AMUNDSEN'S DISCOVERY OF THE NORTHWEST PASSAGE.

A modest Norseman, Roald Amundsen by name, performed in 1905 one of the few remaining great feats of Arctic exploration by sailing a ship for the first time in history through the northwest passage and charting new land in the region where the gallant Franklin and his companions lost their lives. Others had crossed on sledges the archipelago that lies to the north of the American continent, and so bridged the gulf between the two oceans; but Amundsen was the first to sail a boat from the Atlantic to the Pacific.

Amundsen was one of those Norwegians who, as soon as their boyhood mentality begins to dawn, feel their blood stirred by the call of the sea. He was a student of the Franklin tragedy, and his latter-day hero was Fridtjof Nansen. He tells of his enthusiasm when he saw Nansen returning triumphant from his march across Greenland. And it was Nansen who was largely instrumental in enabling Amundsen to venture on the trip that was to succeed where Franklin, Parry, Sir John Ross and others had failed. Amundsen also received the material and moral aid of the king of Norway. By this powerful backing he was able to get a ship, and he gathered around him six sturdy Norwegians, like himself. The small but compact and sympathetic band of explorers started June 16, 1903, from Christiania in the motor-yacht Gjoa, a tiny vessel of 47 tons. It seemed almost a toy ship, when it came to ocean travel and Arctic storms, but its very smallness no doubt had much to do with its success in riding over shoals and escaping ice complications.

A quick trip was made from Norway around the lower coast of Greenland and through Davis Strait to Godhavn. This point was reached July 5, 1903, and stores of all kinds were taken in. Then the Gjoa pushed northward in Baffin Bay, making for Cape York, which was the northernmost point to be reached in that part of the expedition. Cape York was sighted August 14, but not till after dangerous ice had been encountered in Melville Bay, often a perilous spot for explorers.

Telling of this ice, Amundsen says:

"To the east the whole interior of Melville Bay lay before us. Right inside, in the farthest background, we could see several mountain tops. An impenetrable mass of ice filled the bay; mighty icebergs rose here and there from out of the mass of ice. When we at last looked back, we saw the fog out of which we suddenly slipped, lying thick like a wall behind us. Such a sight is one of those wonders only to be seen in the never-to-be-forgotten seas of ice."

Melville Bay was not to be a sticking-point for this lucky party, however, and Cape York was made with ease. There Amundsen met members of the so-called Danish Literary Expedition to Greenland, led by Mylius Ericksen, and including Knad Rasmussen, one of the strongest supporters of Dr. Frederick A. Cook. Felicitations and advice were exchanged, and the Amundsen party proceeded through Lancaster Sound to Beechey Island, which was the point where Sir John Franklin had his last comfortable winter quarters. Amundsen, always an admirer of Franklin, gives vent, in his account of the trip, to his feelings on their putting in at the spot where the sturdy Britisher quartered himself while still in health and hope. It was there that the scurvy, which was to scourge the crews of the Erebus and Terror most fearfully, first made its appearance.

After a short stay the Gjoa was turned south in Franklin Strait and plunged into a region of mysteries and possible perils. As the point of the magnetic pole was approached, the compass began to show signs of being in a strange country. It vacillated furiously, and before the eyes of the anxious mariners veered gradually until it pointed southwest. The magnetic pole was at hand.

What lay before the party, with the ice accumulations always a danger, and with a "nervous" compass, they could not foretell. But they sailed the Gjoa on along Somerset Island. Between that island and Prince of Wales Land Amundsen encountered what he feared was the long-dreaded ice-barrier. They saw what they took, he says, in the mirror-like glitter of the calm sea, to be a compact mass of ice extending from shore to shore. "It seemed evident to me that we had now reached the point whence our predecessors had been compelled to return—the border of solid unbroken ice. Happily we were mistaken, as, in fact, we were several times afterward under similar circumstances. With the sunlight on the glassy surface of the sea, with pieces of ice scattered over, these may easily present the appearance of one solid, continuous mass. This optical illusion is also enhanced by the 'ice blink' constantly occurring in the Arctic sea. This ice blink magnifies and exaggerates a small block of ice to such an extent that it looks like an iceberg; especially when looking at it

Parry Island
P. Parrick Id
Melville Id
BEAUFORT SEA
Track of the Gjoa
Banks Land
Pce Albert Land
Wollaston Land
Victor Land
Coronation Gulf
Dease
Franklin Bay
C. Bathurst
Winter Station No 2
Mackenzie R.
KING'S POINT Aug 29 1905
NOME 3 Sept 1906
ASIA
ALASKA
CANADA
PACIFIC OCEAN

GREENLAND
Grant Land
Stores
Danish Greenland Expedition
Cape York
Melville Bay
Aug 8 1903
Dangerous Ice Pressures
Track of the "Gjoa"
Baffin Bay
Disco Id
Godhavn
July 5 1903
Stores taken aboard
From Norway
Davis Str
Bathurst Id
N. Devon
(Sir John Franklin's 1st Winter Quarters)
Lancaster Sound
Barrow Str
Beechey Id
Compass unreliable
Somerset Id
Prescott Id
Compass useless
P of Wales Id
Franklin Str
BAFFIN LAND
Cockburn Land
Melville Promontory
HUDSON BAY
Boothia
(Ross magnetic Pole)
King William Land
District of North Magnetic Pole
Winter Station No 1.
Peter Sen Bay King William Land
Sept 12 1903 to Aug 13 1905.
Narrowest portion of N.W. passage

through a telescope at short range you may easily imagine you are facing a huge ice-pack. But on the Arctic sea you can never rely on what you fancy you 'see,' however distinct it may appear."

And now the compass failed them altogether. Off Prescott Island in Franklin Strait, Amundsen says, "the needle of the compass, which had been gradually losing its capacity for self-adjustment, now absolutely declined to act. We were thus reduced to steering by the stars, like our forefathers the vikings. This mode of navigation is of doubtful security even in ordinary waters, but it is worse here, where the sky, for two-thirds of the time, is veiled in impenetrable fog. However, we were lucky enough to start in clear weather."

Next day all Amundsen's fears for the time being were dissipating in a manner he describes graphically as follows:

"I was walking up and down the deck in the afternoon, enjoying the sunshine whenever it broke through the fog. * * * As I walked I felt something like an irregular lurching motion, and I stopped in surprise. The sea all around was smooth and calm. * * * I continued my promenade, but had not gone many steps before the sensation came again, and this time so distinctly that I could not be mistaken; there was a slight irregular motion in the ship. I would not have sold this slight motion for any amount of money. It was a swell under the boat, a swell—a message from the open sea. The water to the south was open; the wall of ice was not there."

Winter was now approaching, and the Gjoa was hard put to it. Once the little ship was nearly burned when a quantity of petroleum, used as fuel for the motor, took fire; but the courage and coolness of Amundsen and his men averted a disaster. Another time the Gjoa ran aground, and was floated only by throwing overboard all the stores that were piled on deck. But King William's Land was reached in safety, and on the southeastern part of the island the Gjoa made port in what one of the party described as "the finest little harbor in the world." This was ninety miles south of the magnetic pole as located by Ross.

The whole party now entered upon a long period of investigation—the work for which they really had come, rather than to navigate unknown seas. Their duty was to observe the region of the magnetic pole, to observe its variations and make a study of the magnetism of the earth.

The magnetic pole is very little understood. Many suppose the north pole to be the point toward which the compass points. Not so.

As Amundsen describes it, "if we fit up a magnetic needle so that it can revolve on a horizontal axis passing through its center of gravity (exactly like

a grind-stone) the needle will, of its own accord, assume a slanting position, if its plane of rotation coincides with the direction indicated by the compass. * * * At the magnetic north pole, the dipping needle will assume a vertical position, with its north point directed downwards; at the magnetic south pole it will stand vertically with its south point downwards."

The Gjoa as anchored in the "fine little harbor," which they named Gjoa-havn September 12, 1903, and remained there until August 13, 1905. A house was built, in which two of the party pursued scientific observations, acquaintance was made with the Eskimos of the region, and much exploratory work was done. A trip was made to Boothia, where the magnetic pole is situated, and two of Amundsen's men made a sledge journey along the eastern coast to Victoria Land, charting much new land, and traveling 800 miles. But these pursuits came to an end, and when the season for propitious travel was fairly on, the Gjoa was headed westward for the climax of the journey. She was maneuvered successfully through the narrowest portion of the passage, south of King William's Land, and pushed on into channels whose navigability was yet to be tested. On through Deas Strait and Coronation Gulf the little motor-vessel held her course, and scarcely a mishap marred the successful journey.

Describing the most "ticklish" part of the trip, Amundsen says:

"The channel now ceased and branched off in the shape of a narrow sound between some small rocks. The current had probably formed this channel. The passage was not very inviting, but it was our only one, and forward we must go.

"As we turned westward, the soundings became more alarming, the figures jumped from seventeen to five fathoms, and vice versa. From an even, sandy bottom we came to a ragged, stony one. We were in the midst of a most disconcerting chaos; sharp stones faced us on every side, low-lying rocks of all shapes, and we bungled through zigzag, as if drunk. The lead flew up and down, down and up, and the man at the helm had to pay very close attention and keep his eye on the lookout man, who jumped about in the crow's nest like a maniac, throwing his arms about for starboard and port respectively, keeping on the move all the time to watch the track. Now I see a big shallow extending from one islet right over to the other. We must get up to it and see. The anchors were clear to drop, should the water be too shallow, and we proceeded at a very slow rate. I was at the helm, and kept shuffling my feet out of sheer nervousness. We barely managed to scrape over. In the afternoon things got worse than ever; there was such a lot of stones that it was just like sailing through an uncleared field. Though chary of doing so, I was now compelled to

lower a boat and take soundings ahead of us. This required all hands on deck, and it was anything but pleasant to have to do without the five hours' sleep obtainable under normal conditions. But it could not be helped. We crawled along in this manner, and by 6 p. m., we had reached Victoria Strait, leaving the crowd of islands behind us."

On August 17 they anchored off Cape Colborne, after having sailed the Gjoa "through the hitherto unsolved link in the northwest passage."

On August 26 at 8 a. m., Capt. Amundsen was asleep below, when he heard a rushing to and fro on deck. A few minutes later came the cry "A sail!" It was a whaling vessel, and it meant that the Gjoa had reached navigable waters in the western side of the passage.

Says Amundsen: "The northwest passage had been accomplished—my dream from childhood. I had a peculiar sensation in my throat; I was somewhat overworked and tired, and I suppose it was weakness on my part, but I could feel tears coming to my eyes. 'Vessel in sight!' The words were magical. My home and those dear to me there at once appeared to me as if stretching out their hands. 'Vessel in sight!'"

The Gjoa reached King Point August 29, 1905, after a journey of only sixteen days from King William's Land, and there made a second winter quarters. That winter was saddened by the death of one of the members of the party, the scientist Wiik. The rest pushed on to the end, and arrived in Nome, Alaska, September 3, 1906.

Amundsen was established at once as one of the great explorers of the world, and none received with greater enthusiasm the news of the north pole discovery than did he.

CHAPTER XXXIII.

HENRY HUDSON HONORED IN NEW YORK FETE.

It was a coincidence almost rivalling that of the dual discovery of the pole, that while Dr. Cook and Commander Peary were being feted and were arguing their claims the memory of a pioneer American explorer and Artic adventurer was receiving honor. New York, only three weeks after the great pole sensation, was the scene of a mammoth celebration, with pageants galore and with warships from foreign waters present in force.

The fete served to teach people many little-known facts about Hudson's career, which was one of the most romantic in history.

Alfred Payson Terhune, in a recent biographical sketch of Hudson, has outlined the facts of the explorer's life in a graphic way.

"He was born—no one knows where or when. He died—no one knows when or how. He comes into our knowledge on the quarterdeck of a ship bound for the North Pole. He goes out of our knowledge in a crazy boat manned by eight sick sailors."

So writes one historian of Hendrik Hudson, man of mystery. The hero who blazed his name upon America's history by discovering the mighty river and the bay that bear his name seems to have arisen from Nowhere to perform wondrous deeds and to have vanished into Nowhere when his grand work was done

Hendrik Hudson flashed into fame at a bound, was before the public for four brief years, and then disappeared. Even his portrait and autograph are not generally believed to be genuine. None knows his age at the time he made his discoveries. That he was of mature years is shown by his having an 18-year-old son. But whether he was a hale mariner of 40 or a grizzled veteran of 70 it is impossible to guess.

He was born somewhere in England, some time in the sixteenth century. His name was Henry Hodgson, and his Dutch employers later twisted the English phraseology into "Hendrik Hudson." His father and grandfather are vaguely supposed to have been London merchants and interested in the Muscovy company.

Hudson first appears in history on April 19, 1607, when, with his 16-year-old son, John, and ten mariners he sailed from England as captain of the Muscovy company's little sixty-two ton ship, Hopewell. There is the modest object of his voyage as set forth in his own notes:

"To discover the North Pole and to sail across it to China or India."

The voyage was probably of Hudson's own choosing. For all his known life he was a slave of one idea—and that idea a wrong one. He believed that he could reach the orient through a sea passage somewhere in the frozen north. This would mean a short cut for Europe's trade with the east. To discover the supposed north passage Hudson devoted all his powers and risked his life. The really great discoveries which he blundered upon while searching for this passage he did not seem to consider especially valuable.

Sailing on the Hopewell in April, 1607, he scored a "farthest north" record, penetrating to within 10 degrees of the North Pole and discovering Spitzbergen. But the icepack and cross currents at last drove him back. He returned to England without having found the long-sought passage across the pole to the orient. But in 1608 he was ready for another search. Again, in the Muscovy company's service, he sought the mythical passage. This time he sailed eastward to Nova Zembla, and again was turned back. Here is a queer extract from Hudson's notebook for this voyage:

"On this day (June 15, 1608), one of our company, looking overboard, saw a mermaid. She was close to the ship's side, looking earnestly upward."

Hudson's two unsuccessful voyages in quest of the passage across the pole disgusted the Muscovy company with that sort of exploration. They turned their attention to whaling. Hudson as an explorer was out of a job. Then, when luck seemed at its worst, came the chance of his life—a chance that made him immortal.

The Dutch East India company had been making so much money that a 75 per cent. dividend had been declared. Some of the company's directors suggested that a small part of the surplus cash be used for fitting up an expedition to hunt for the "north passage." It was a gamble, and to the thrifty Dutch looked for big commercial results. They sent for Hudson and offered him command of the venture.

He was ordered to set out in the eighty-ton Half Moon, with a crew of twenty men, and to "proceed in search of a northwest passage around the northern extremity of Nova Zembla to India." For his services, according to a contract's terms, Hudson was to receive $320, "as well for his outfit as for the support of his wife and children." The contract adds: "In case he do

not come back—which God prevent—the directors shall further pay to his wife 200 florins ($80) in cash."

Thus it was that in the early spring of 1609 Hudson put to sea for Nova Zembla. A second ship, the Good Hope, went along with the Half Moon as consort, but soon turned back.

The icepack kept Hudson from reaching Nova Zembla. His crew, in council, advised him to try the impossible passage of Davis straits into India. Some historians say he refused; others that a great storm blew the Half Moon far westward from her course. Whether from design or accident, Hudson found himself off the North Atlantic coast of America. Then he made known to his men a wonderful plan he had evolved, namely, to discover an inland strait or sea crossing the whole American continent from the Atlantic ocean to the Pacific. To this insane plan we owe the discovery of the Hudson river.

Capt. John Smith—a most marvelous liar as well as a splendid soldier of fortune—had once told Hudson that a strait or inland sea cut the North American continent in half, from east to west, and that its Atlantic inlet was just north of Virginia. Failing to find a passage across the North Pole to India, it occurred to Hudson that the discovery of this inland sea between Atlantic and Pacific might help atone for his other failure. For, by coming to America at all, he was disobeying his employers' orders.

So down the Atlantic coast from the north sailed the little Half Moon She touched at Cape Cod (that had already been discovered by Goswold in 1602), found no "inland sea," then put further offshore and next sighted land at Chesapeake bay. Hudson cruised in the Chesapeake only long enough to find it was not the "strait" he sought. Then he ran north, along the coast, to Delaware bay, where he made another hopeless search for the "strait," and again skirted the coast to the northward. Every opening in the New Jersey shore line must be carefully explored, for each might prove to be the mouth of the "strait."

Thus, on Sept. 3, 1609, Hendrik Hudson sailed inside Sandy Hook and cast anchor in lower New York bay. From the size of the bay it seemed to him that he had at last found the mythical "strait." There is no reason to think Hudson was the first man to enter New York bay. Mariners from several countries claimed to have been there before him. Andrea da Verazzano, a corsair in the French service, explored the North Atlantic coast from Florida to New York in 1524, and so on to Block island and Newport. He was either killed by Spaniards or roasted at the stake by savages.

For ten days the Half Moon rode at anchor in the lower bay, while Hud-

son parleyed with the natives, whose canoes swarmed about his ship, and sent out little exploring parties in boats. In one of these explorations the boat crew had a fight with Indians, and John Coleman, a seaman, was shot through the throat by an arrow. The first white man to die in New York was buried on a sandy strip of ground known thereafter as "Coleman's Point." On Sept. 12 the Half Moon sailed up the bay to Manhattan island and anchored off what is now the battery. One historian writes that at this spot Hudson gave a great feast to the Indians and offered them the first liquor they had ever tasted. A drunken orgy followed, and the Delawares, in contempt, named the island "Man-hatta-nink"—meaning "place of general intoxication." Hudson was delighted with the beauty of Manhattan island and wrote in his report:

"It is a very good land to fall in with and a pleasant land to see!"

Thence up the broad river he sailed, certain that he had at last found the "strait." Friendly natives fed his crew on grain and game during this journey and received in return not only such trinkets as savages love, but liquor as well. Says the journal of Juet, Hudson's mate: "When they were drunk it was strange to them; for they could not tell how to take it." At the present city of Hudson the captain and officers went ashore, and, according to the note, were there feasted by the local chiefs on "a goodly store of pigeons and a fat dog." Hudson plied the chiefs with drink "to learn if they had any treachery in their hearts toward us." When he discovered that the salt water of the lower bay was turning fresh he began to doubt if he were really in the "strait."

Yet he kept on, until, on Sept. 22, at a point just above Albany, he found the river was no longer navigable. This was a terrific blow. Hudson had failed to reach the North Pole, he had disobeyed orders in coming to America, and now he knew at last that there was no inland sea leading from New York to the Pacific.

His voyage had failed. He was heartbroken. The fact that he had discovered one of the greatest rivers on earth counted for nothing. That while searching for a "strait" which did not exist he had opened New York to civilization and had thrown wide the gates to a rich wonder-world—all this meant nothing to him. He had failed. His fellow-navigators would sneer at him. His employers would reprimand—perhaps discharge him.

To soften the Dutch East India company's wrath he began to collect rare woods and furs to show how valuable a land this might be from a trade viewpoint. Indeed, it was the news of these products—especially the furs—that later led the Dutch to settle New York. Thus, even in his "failure," Hudson's

pathetic efforts to pacify his employers were the indirect cause of New York's first growth.

Coming down the river Hudson anchored under the Hoboken cliffs. The mate writes of the opposite shore as "that side of the river called Manna-hata." (There are nearly a dozen versions of the way Manhattan got its name.) There, on Oct. 1, while the Indian canoes were clustering around the ship, one savage climbed the rudder chains, crept through a window into Hudson's cabin and stole a pillow, two shirts and two belts. The mate, according to his own account, "shot at him and struck him on the breast and killed him." The ship's cook seeing a second Indian who, in swimming, had seized the dead savage's canoe, "took a sword and cut off one of his hands and he was drowned." This brought on a general fight, in which several more natives were killed.

On Oct. 4 the Half Moon set sail for Holland. It was the first vessel to leave the port of New York bound direct for Europe. Hudson knew that trouble awaited him at home, but had he guessed how great a misfortune it would prove he would probably have chosen some other destination.

Great was the excitement at Dartmouth, England, when, on Nov. 7, 1609, the battered little Half Moon crept into port, bearing the returned discoverers. Hudson and his men were plied with questions as to the wonderful new land they had explored. They became nine-day wonders at the sleepy English town. But suddenly the sentiment toward them changed.

Hudson had merely stopped at Dartmouth on his way to Holland. Before he could go on with his journey the British authorities seized the Half Moon and arrested Hudson and the crew. For months the returned mariners were held captive. At last Hudson succeeded in forwarding his reports to the Dutch East India company, and his men were allowed to take the ship to Amsterdam. Hudson did not go with them. It is supposed, too, that the Dutch East India company (angry at his disobedience to orders and disgusted at what they deemed his failure) discharged him.

Thus the discoverer found himself stranded once more, without employment or prospects. For months he lived in miserable idleness, trying always to secure command of a new expedition for the discovery of the North Pole and of the supposed "passage" across it to India.

(The Half Moon, after several later voyages under less famous captains, is said to have been wrecked off the island of Mauritius in 1615.)

By dint of much persuasion Hudson finally induced some rich London merchants to fit out a ship for him and let him make one more search for the

northern "passage." This new vessel, the Discovery—seventy tons—was manned by Hudson, his 18-year-old son John and twenty-two other adventurers. She sailed from England on April 17, 1610. In July she entered what was afterward known as Hudson's straits, and on Aug. 2 entered Hudson's bay. For three months Hudson explored that vast body of water. Then in November he and his men went into winter quarters on its south shore.

Hudson was a great and fearless navigator. But he was not a born ruler of men. This had earlier been shown by the mutinous behavior of his crews. Now, camped on the frozen coast of a northern bay, short of food, fearful of dying in that bleak wilderness, his men again broke into furious mutiny.

Hudson tried to pacify them by argument and entreaty, instead of enforcing his authority. He also divided among them the last fragments of the ship's provisions. He even wept loudly and publicly over their mutinous conduct. All this served to make the crew the more contemptuous of Hudson's authority.

Illness, starvation and mutiny wore away the long northern winter. When spring at last arrived the men clamored to start for Europe. Hudson deemed the ship too badly provisioned and the ice floes too thick for a safe passage so early in the season. Whereat the mutineers seized Hudson on the morning of June 21, 1611, as he came on deck from his cabin, bound him and threw him into a small boat. They thrust his son John into the boat after him, and then proceeded to throw seven of the weakest, sickest sailors over the side of the ship into the cranky little craft to keep the fallen hero company.

While almost the whole crew had mutinied, yet those who found themselves condemned by their stronger brethren to share their commander's fate resisted fiercely. In the free fight that ensued up and down the deck four men were killed.

At last the boat with its nine helpless occupants was cut loose from the ship. A kettle, a gun, some ammunition and a little food were tossed to the fugitives, and the Discovery sailed away for England, leaving Hudson and his sick fellow outcasts floating helpless upon the water in a frail boat. The mutineers fought among themselves on the way home. All ringleaders were killed or died of hunger and disease. Of the twenty-four who had left England, only eight returned alive. In the Discovery, in 1616, Baffin's Bay was discovered.

What became of Hudson and his eight men? A relief expedition found no trace of them. Did they perish, or—as old traditions say—were they adopted into some Indian tribe? Hudson's fate is as mysterious as his origin.

He sprang at a bound from utter obscurity, accomplished his life work and vanished into the Unknown.

The most spectacular features of the New York celebration were a naval parade, a land pageant and a display of fireworks.

The naval parade was held the morning of Sept. 25 amid a din of whistles like that heard when the old year passes out and the new comes in, made up of the combined clamor of all the harbor craft, the hoarse blast from the tugs, and deeper bass of the big liners, the firing of guns, the cheering of the folks assembled on the shores of the three boroughs, and the neighboring state.

From the lee of Jersey shore, where Kill von Kull cleaves the way between the sister state and Staten island, there emerged a strange vessel. Its high poop, its rigging, its entire makeup bespoke the day that has long since passed. Besides the Cunarder Caronia, which passed in strung with flags from stem to stern in its honor the foreign-looking boat appeared ridiculously small. In fact, it was completely blanketed.

Yet, after a lapse of three centuries, its day had come again—a glorified day in which a great city paid its tribute in respect to the Half Moon and what it stood for.

Likewise the Clermont, typifying the day when Manhattan stretched to Canal street and no farther, while Brooklyn was a village, when the science of navigation by steam was in its infancy, got such a reception as Fulton never had in the bygone days when his genius came to be recognized.

There came near being an end to the most attractive feature of the entire celebration before matters were straightened out and a start was made. The Half Moon and the Clermont collided while rounding the turn off the ferry house close to St. George. The Half Moon had broken out sail at the time and was footing it in great shape under a cloud of canvas, but the twenty knot wind proved too much for it. In spite of the efforts of the Dutch crew to prevent it the vessel bore down on the long, low lying Clermont and rapped it smartly on the port side amidships.

The Clermont, with its outside paddle wheels churning the water of the bay into a yeastly smother, tried to get out of the way, but the Half Moon, which was like a chip on the ocean in comparison with the present day liners, proved fully as ambitious as the record breaking four day boats and bore down into the wind with a speed which would have made Henry Hudson open his eyes wide in astonishment.

Not far from the Stapleton shore the crash took place. The Dutch product of the sixteenth century had traveled a short distance from Constable Hook in tow, but the wind was so inviting it parted from its convoy and put out sail. When the sailors on the Half Moon saw that a collision was inevitable they hastily lowered the canvas, which retarded the Half Moon's speed considerably. All the same, the sixteenth century and the nineteenth came in contact with force enough to set the pewter plates on the Dutchman rattling.

Neither vessel was much damaged. Part of the railing of the Clermont was splintered and the Half Moon had its nose bruised, figuratively speaking, for the bowsprit was bent a bit, but it was not necessary for the vessels to drop out of the line and they joined in the parade as briskly as if nothing at all had happened.

The Clermont was under its own steam at the time, just as the Half Moon was under sail. The tug Frederick B. Dalzell had taken the Half Moon 200 yards. A breeze was kicking the bay into whitecaps, but as the quaint vessel spread its white wings and the sails bellied out, it rounded Staten island like an American cup champion. It wasn't on the cards that it should go as fast, but the crowd on shore was delighted and let out a cry of approval.

At the same time the cloud of steam issued from the tall stack of Clermont, but its gait was more methodical. When the crew saw the Half Moon up on it, however, the vessel got a move on in earnest and tried to get out of the way. It couldn't quite make clear water in time.

In the wake of the Half Moon trailed the official boats, tugs, yachts, and other craft. Five submarines stole into the channel and went along, closely convoying the Half Moon. Then the big show might fairly be said to be on.

The head line of the naval parade, with the Half Moon leading, was off South Brooklyn shortly before 1 o'clock.

The excursion boats were all heavily crowded and the bay was full of decorated vessels of all sorts—tugs, steam lighters, and other craft darting hither and thither. The outward bound liners were all decorated as they passed the parade on their way down the bay. The boats moved up the Hudson in a double line at a speed of about eight miles an hour, but such was the number of participants and the distance necessary to be maintained between them that the head of the procession had reached the turning point at Spuyten Duyvil and was part way back before the last upward bound vessel passed the Battery. Strung out thus, the column proved to be nearly fifteen miles long.

When the Half Moon and the Clermont reached the United States ship Newport, which marked the southern end of the line of warships at Forty-fourth street, they moved up on the New York side of the river, while the other vessels kept on between the men o' war and the New Jersey shore. As the two little craft went by the warships started firing the royal salute, making one continual roll of powder fed thunder.

The Half Moon and Clermont went only as far as One Hundred and Tenth street, where the land ceremonies of the day occurred at 4 o'clock, with speeches by Gov. Hughes and others. While these were in progress the other vessels rounded the head of the warship line at Two Hundred and Twenty-second street, and returned along the Manhattan shore, back to buoy to await the night, when, with scarcely time enough for the crews to get dinner, the participants of the day parade went over the same route, while the river was gorgeously illuminated.

The weather was as perfect as the preparations. Four days of rain had washed all the gray out of the skies, and through the atmosphere, clear and sparkling, ran the first brisk breath of autumn, the first feel of Indian summer. Under the flawless sunshine the water danced, all white and blue, the wheels and screws of the scurrying craft churning the top of the swells into a creamy smother.

Where all the crowd came from and how it got settled into place is a marvel past telling. The sun, climbing into the sky, looked down upon a metropolis that rippled and eddied with red, white and blue, with orange, blue and white, and with every other color that can be woven into a flag or printed into bunting; it looked down also upon two rivers, a harbor, and bay fairly dancing with vessels of every sort, from ocean liners, excursion boats, trim private yachts, fat ferry boats, waddling like mallards, and tugs as brisk as the blue teal, down to motor boats and skiffs, playing over the surface like schools of sunfish in a pond. It also looked upon the picked war craft of our own nation and other nations; all metal and menace and might.

Besides the pleasure craft there was waiting the greatest gathering of war vessels ever seen. It was a fleet of seventy war vessels, fifty-three American, four English, four German, three French, two Italian, One Dutch, one Argentine, one Mexican, and one Cuban, with guns enough, if fired in one broadside, to wipe out a city or sink a nation's navy—enough potential destruction in a row to stagger the imagination. There were 27,000 officers and men and nearly 500 big guns.

In the evening came the fireworks.

As early as 6:30 o'clock, when the city hall and all the borough halls of the great city, the big East river bridges, the skyscrapers, hotels, and everything else sent forth their first flash of lights, all the river also was lit up. In front of the big white pylons of the staff at the foot of One Hundred and Tenth street lay the liner Nieuw Amsterdam, with every line studded with lighted bulbs. From the water front a few yards in front of the crowd to the rim of the Palisades, up and down as far as one could see, there were lights and lights—and more lights.

There was a pause for a while on every bridge of the miles of fighting ships while the quartermasters waited for the "cornet" signal that would cause them to give the order. "Turn on lights." The signal came promptly as signals on flagships have a habit of doing, and like a burning trail of powder ship after ship flashed out of the darkness, up and down the river as far as you could see. A good imitation of the crack of doom accompanied the lighting up of the fleet. Every siren for miles was tied down. The hoarse calls of battleships, liners, and other boats added to the din.

Jets of light from the clustered searchlights far up the river, which had been radiating like sticks in a woman's fan in individual rays, now were brought closer together, still spreading out individual shafts of light, but making a lesser, therefore brighter, number of rays.

And then up and down the river, the Jersey shore—the back drop of the stage—broke loose with fireworks. Fireworks spluttered and banged and sent trailling balloons of fire sailing southward over the warships in a strong breeze for more than an hour. It undoubtedly was the biggest pyrotechnic display, in quality and in quantity, that New York ever had seen.

Up on Washington heights twenty great beams of light in twelve colors made a playground of the darkness. The searchlights were there to light up the curtain of steam that sizzled a few hundred feet from them to one side. The steam would billow out in fat, fanlike puffs, and the searchlights would illuminate these in gaudy colors, like a peacock's tail, or it would come out in a solid sheet and the colors would play on the wall. Again it would issue forth in short snaky looking wreaths, a dozen writhing in mid air at the same time, and the colors would come and go in red and yellow and all the other tints the psychologists say represent anger and fear.

The plant from which all the plays of light came was situated on Riverside drive, between One Hundred and Fifty-fifth and One Hundred and Fifty-

seventh streets. There the twenty lights were lined up, occupying more than a block, facing the Hudson river. Each projector had an intensity of 50,000,000 candle power. The light was so powerful that when the operator turned it on a tree during the preliminary practice every leaf was brought out in a hard brilliance of contour.

From the Philadelphia Inquirer.

THE RACE FROM THE NORTH POLE HOME

The most interesting effect was that obtained by forcing steam under heavy pressure through hose pipes. The pipes slatted about furious in mid air and the steam was thrown about in every direction. This was called "the battle of the serpents," or some such name, and as lighted up by the twenty projectors had a dazzling effect. Another effect was obtained by discharging an aerial bomb high in the sky, then turning the searchlights up on it till the smoke cloud had disappeared,

This was the end of the day's festivities—and it had been a crowded day.

The historical pageant on Sept. 27, really represented the supreme effort of the commission. For several months 300 artists, carpenters and papier-mache manipulators had been at work preparing the wood and plaster figures which decorated the fifty-four floats in the procession. Nearly 20,000 men, women and children, representing every national and patriotic society in the city, posed as historic personages on these floats or marched beside them. The cost of the spectacle was $300,000.

Guests of the commission and the city numbered several thousand. The former occupied an immense stand in front of the new public library at 5th avenue, 40th and 42d streets. This was the reviewing stand.

The story unfolded by the floats and their costumed characters dealt with the history of New York and the country surrounding it in four periods—the Indian, the Dutch, the colonial and the modern. The last named, however, carried the tale no farther than the first Erie canal boat and the introduction of water from the Croton reservoir. Leading the pageant were officers of the city and the commission. The Irish societies led the first division, having in line about 400 Friendly Sons of St. Patrick and 2,000 members of the Ancient Order of Hibernians, while after them marched 1,500 from the Italian organizations, 1,500 Bohemians, 250 Poles and 250 Hungarians, all in costume. The title car "New York," which led the floats, was followed by 250 Norwegians. A number of Iroquois Indians took part in the tableaux on the Indian floats that followed.

After 1,000 additional members of the Italian societies and 1,000 from Ireland came floats picturing scenes in the early Dutch colonies, including representations of the Half Moon and the "Fate of Henry Hudson." One that attracted attention was the car "St. Nicholas," attended by 250 children. That the youngsters might not be wearied by the long march they served in relays along the route.

Swedish and Irish societies, including 1,500 members of the Clan-na-Gael, preceded the floats of the colonial period and members of various patriotic societies escorted the cars of the modern or United States period, which composed the last division. "The reception to LaFayette," however, was accompanied by 200 members of the French societies, and the car "Garibaldi" was escorted by members of the Italian societies, including ten veterans who had served under the Italian liberator.

And thus Henry Hudson was honored. It may be asked: How will the American nation do homage to Peary and Cook in 2009?

CHAPTER XXXIV.

HOW LATITUDE IS RECKONED.

All those who have been to sea have looked on, more or less mystified, while one of the ship's officers takes his observations to find out just where the ship is. If the average landlubber is asked to tell just what happens on such occasions he will confine his explanations, as a rule, to stating that the instrument involved is a sextant, and that the sun plays an important part in the affair. After that—unless he is an exceptionally well-informed landlubber—he will trail off into vague remarks about latitude and longitude, and then, ten to one, change the subject.

But the sextant suddenly jumped into the limelight with the discovery of the pole; for, besides being indispensable to the seafarer, it is equally so to polar explorers. It is by its use alone that Peary and Cook were able to determine their whereabouts while on their weary marches through the frozen north. In fact, if they had not had the useful little instrument among their paraphernalia they would have been absolutely unable to tell whether they were at the coveted goal or hundreds of miles away from it.

Hence, this query is now more pertinent than ever: What is a sextant and what does it do?

The sextant is an instrument for measuring angles between distant objects. It consists of a frame in the form of a sector, embracing somewhat more than one-sixth (usually about one-fourth) of the whole circle; two mirrors, one wholly silvered and one silvered over half its surface, a movable arm pivoted at the center of the sector and carrying the fully silvered mirror, and a vernier, or measuring scale; an arc along the circumference of the sector graduated into degrees, minutes and seconds and an eye-piece. Its name is derived from the Latin word sextans, signifying the sixth of a circle.

People are often puzzled to know why the sextant should be so called, when it can measure angles up to 129 degrees, or the third of a circle. But, as Lecky points out in his well-known "Wrinkles in Practical Navigation," if the possessor of a sextant will look at the arc, he will find out that by his eye alone,

as a matter of fact, it consists only of the sixth part of a circle. The optical principle upon which the instrument is founded (that of double reflection) permits of half a degree of the arc being numbered and considered as a whole degree. Thus, in the sextant what is really only an arc of 60 degrees is divided into 120 equal parts, each of which does duty as a degree.

The optical principle upon which the sextant is founded is thus expressed in scientific language: "If a ray of light suffers two successive reflections in the same plane by two plane mirrors, the angle between the first and last direction of the ray is twice the angle of the mirror."

What the sextant does, expressed differently, is to solve the astronomical triangle, one point of which is the pole, the second the observed heavenly body, which is the sun, and the third the zenith, which is the point directly over the head of the observer. What the observer seeks to find out from his readings of the sextant is the sun's altitude. Once he gets that he can get all the other necessary data from the so-called "Nautical Almanac," a government publication, revised for each year, which is among the most treasured possessions of every navigator and explorer.

By latitude is meant the angular distance between the horizon and the level of the observer. In making observations at sea the actual horizon—that is, where the sky and the water meet—is used. On shore, however, observers make use of an artificial horizon. Ordinarily this consists of a cast-iron trough, containing pure mercury, which is protected from disturbances from the wind by an angular glass roof. A form of artificial horizon more suitable for the needs of explorers is that known as Capt. George's, since it is more compact and more easily carried. In place of mercury, molasses, crude oil and other substances may be used in the artificial horizon.

What is known as the "meridian altitude," or the sun's position at noon, is the best for getting the latitude, hence it is that observations are usually taken when the chronometer of the explorer or navigator tells him that it is noon. At that time the error which an observer is likely to make in determining the longitude is a matter of small importance.

The two things that an observer must know in order to get his latitude are the altitude of the sun, which he gets by means of his sextant, and the declination of the sun, which he gets from his Nautical Almanac. By declination of the sun is meant its angular distance north or south of the celestial equator —i. e., a circle reaching to the heavens which is in the same plane as the equator of the earth.

The declination of the sun is tabulated in the Nautical Almanac for noon at Greenwich, England, for each day. It varies from day to day, so that, in order to know accurately the declination of the sun at the time of taking his observations, it is necessary for the observer to know how many hours before or after noon at Greenwich the observation is taken. This is ordinarily expressed in terms of longitude east or west of Greenwich.

But at the pole there is no longitude. In spite of this the chronometer is equally necessary at the pole, in order to ascertain from the almanac the declination of the sun.

The best observer with a sextant and an artificial horizon, under ordinary conditions, would hesitate to trust his observations, to determine the sun's altitude, closer than a quarter of a nautical mile, or 15 seconds of an arc, a nautical mile being equivalent to a minute of longitude or a minute of longitude at the equator, or 6,086 feet, instead of the 5,280 feet making a statute mile. This hesitation on the observer's part is due to the fact that in making observations there are three errors likely to be made. The first is that due to lack of ability on the part of the observer himself. The second is the "instrumental error" which can practically be eliminated by using the very highest grade obtainable of instruments.

But the most serious error of all is that due to refraction.

ALLOWANCE FOR REFRACTION.

To give an idea to the outsider of what refraction is, no better example can be adduced than the appearance of an oar in the water. Everybody will recall that it looks as if it were bent at the surface of the water. This is due to refraction. In technical language it is expressed thus: "A ray of light is bent from a straight line as it passes from one medium to another or in passing through a medium of varying density."

Thus is explained what happens in observing the sun, for the air, from a maximum density at the surface of the earth, becomes thinner and thinner as it gets higher above that surface, so that a ray of light from the sun, when it strikes the earth's atmosphere, bends and keeps bending more and more as it travels toward the earth. Tables have been prepared which give the amount in degrees, minutes and seconds of this refraction. It changes as the barometer and thermometer change and the tabulated refraction is mean or average of a large number of observations to determine what the refraction is.

The pole, by the way, is the very best point at which to take observations, for the reason that there the error due to refraction is likely to be less than at any other point on earth.

COST OF POLAR EXPEDITIONS.

A writer named Walter Leon Sawyer has quite interesting facts about the cost of polar expeditions. He says:

The "promoter," of the vulgar sort, he of the sordid imagination, who demands from every outlay a return of profit, has not had much to do with modern expeditions to the Arctic, though in earlier times his trail was over them all. Then, while the northwest passage to India, not the North Pole, was the goal of ambition, the discovery of such a route seeming to insure commercial supremacy, kings turned speculators and hard-headed merchants made ventures that must have figured oddly in matter-of-fact account books, Walter Leon Sawyer says in the Boston Transcript.

Yet the first polar expedition, after the interregnum that followed Norse colonization of Iceland and discovery of Greenland, was discreetly accounted for by Henry VIII, who ordered it. "For discoverie even to the North Pole, two faire ships well manned and victualled, having in them divers cunning men to seek strange regions," set out in 1527; but one was lost north of Newfoundland, and the other, having discovered nothing went home.

Sebastian Cabot, a little later, revived interest in Arctic enterprise and prompted the sending of Sir Hugh Willoughby and Richard Chancellor "for the search and discovery of the northern parts of the world, to open a way and passage to our men, for travel to new and unknown kingdoms." Willoughby died, Chancellor found Archangel and opened a trade with Russia. And, following Chancellor's success Elizabeth instigated the Muscovy company in 1575 to license Sir Martin Frobisher, who sought the northwest passage, found some mica schist which he took for gold, and wasted two subsequent voyages in gathering more. In 1580, the Company of Merchant Adventurers fitted out an expedition of two ships, one of which was lost; in 1594 and again in 1596 Willem Barentz of Holland made two attempts at the northwest passage, the latter being financed by the city of Amsterdam; and in the later years of the sixteenth century John Davys and Thomas James, Englishmen both, south the north, James being backed by the government. It was at one time "an association of English gentlemen" and at another time the Dutch East India Company that assisted Henry Hudson's ill-fated en-

deavors. It was King Christian IV of Denmark who sent out Jens Munk and others, Danes and Englishmen, to rediscover the lost colonies of Greenland and restore Denmark's supremacy in the Arctic.

But all these expeditions, whether financed by kings or commoners, were undertaken with commercial ends in view. Some glimmering of scientific purposes seems, however, to have lighted the voyage of the second Baron Mulgrave, who was ordered north by the British government in 1773; and thenceforward the spark of enthusiasm continued to brighten to a steady flame. Great Britain commanded or assisted or rewarded the efforts of Cook and Parry and Franklin and Ross, from 1776 to 1848. Then, as the mystery of Sir John Franklin's fate wrought on the minds of men lending a poignant interest to the problem of the Arctic, a new type of "promoter" appeared in the field—the rich man who had no selfish ends to serve. The last word of Franklin's expedition was received in 1845. Between 1847 and 1857 thirty-nine expeditions of relief and discovery were sent out, at an aggregate cost approximating $2,000,000; and, though the British government was generously active, while our own was by no means inert, a large part of the sum was provided by private individuals.

In this connection Americans naturally think first of Henry Grinnell, a native of New Bedford. In 1850 he fitted out the DeHaven search for Franklin; in 1853, together with George Peabody, bore the cost of the expedition commanded by Kane, who had accompanied DeHaven; in 1860, assisted the expedition organized by Kane's surgeon, Dr. I. I. Hayes; and in 1860, 1864 and 1871 helped to meet the expense of Hall's voyages. It is true that that was comparatively a day of small things; but the $100,000 that Mr. Grinnell devoted to Arctic exploration represented then a large fortune; and it led Dr. Kane to write the book that inspired Peary, and enabled Hall to reach the highest north attained in his day—and all this signifies that "Grinnell Land" preserves a name which is rightfully honored.

The northwestern passage, such as it is, was discovered by Sir Robert McClure or by Sir John Franklin—the reader may take his choice of authorities—in the early '50s. The magnetic pole, though "rediscovered" by Amundsen in 1905, had been located by Sir James Clark Ross in 1831. The fate of the Franklin expedition had been definitely determined by Capt. McClintock and Capt. Hall. Lacking the incentive that these problems had provided, there might have been some cessation of activity in the Arctic field, had not James Gordon Bennett of the New York Herald resolved in 1879 to conquer the

pole as with the aid of Henry M. Stanley, he had just conquered Africa. Mr. Bennett was then under 40. Lieutenant Commander George W. DeLong, whom he chose, and whom the government commissioned, to command the Jeannette, was younger still; Commander DeLong had a sound theory, that of taking advantage of the polar drift, Mr. Bennett had money, both men had the enthusiasm of youth. Mr. Bennett devoted some $60,000 to the enterprise. Could the Jeannette have survived the terrible ice pressure off the New Siberian islands—it will be remembered that she made her attack from the Pacific side—one sees no reason why it should not have succeeded.

Previous to this modified co-operation with Mr. Bennett the United States government had shown no urgent interest in Arctic exploration, though, to be sure, it provided Capt. Hall with the Polaris for his third trip. But in 1881 the project of establishing international observation stations appealed to "practical" minds at Washington, and the attainment of the highest north by members of Commander Greely's party, in the following year, may have emplanted in the official bosom a feeling of willingness that this nation should continue to hold the record. Commander Peary has found no great difficulty in securing leaves of absence. For so much we have to be grateful. Meanwhile, in the last fifteen years, the Norwegian government has assisted with "real money" Nansen, gainer in his turn of the highest north, whose expedition in the Fram cost $120,000; the Italian government has speeded to a later highest north the D'Abruzzi expedition, which cost nearly $200,000; Canada, aided by England, has promoted Capt. Bernier's venture; Sweden sent out Nathorst in 1899; Denmark gave official godspeed to Amdrup in the same year; and Russia authorized Admiral Makaroff to expend on his ice-crushing ship, the Ermack, all the money that he needed.

William Ziegler of Brooklyn in 1901-2 financed the expedition led by Evelyn Briggs Baldwin and, when it failed, sent out in 1903 another expedition led by Anthony Fiala. Mr. Ziegler was a hearty whole-souled, loud-voiced, sweet-tempered man who had made a fortune in baking powder. Like every other successful business men, he knew that it is needful to spend money in order to "get returns," and he appropriated $1,000,000 to take the pole by storm. To list the supplies that were carried on the three ships of the expedition would remind the reader of a delicatessen store.

But events move swiftly sometimes, and these expeditions seem already ancient. Let us come to the present. As to Dr. Cook's sponsor, John R. Bradley, a current story pictures "the best outfit ever carried by an expedition,"

while another shows the explorer starving when he stumbled upon a preceding explorer's cache. Friends of Bradley, however, estimate that his outlay on the Brooklyn man's account was in the neighborhood of $15,000.

It is unfortunate for Dr. Cook that Commander Peary's adherents make so superior a showing. The chief contributor to the fund for his last voyage was Zenas Crane of Dalton. Toward the preceding voyage the late Morris K. Jesup of New York, president of the Museum of Natural History and inheritor of many other honors as well deserved, gave $50,000. Moreover believing in himself, Commander Peary "backed himself," and, on the authority of Maj. J. B. Pond, surpassed the record of any other American lecturer, speaking 168 times in ninety-six days, and thereby earning $13,000, which he devoted to his own enterprise.

Does the reader weary of large figures? It is granted that they have a repellant effect when they stand for sums that have to be given, and enthusiasts who would like to pose or to think of themselves as angels of the Arctic may well regret that they did not live in earlier and simpler days. When Capt. Hall planned his first expedition, in 1860, all the actual cash he received from admirers and well wishers—who were naturally shy until he proved himself—was $980. Henry Grinnell gave $343, Augustus H. Ward of New York gave $100 and there were a few subscriptions of $50, among them one by Cyrus W. Field. Yet there were friendly souls besides who wished to aid. Capt. Hall gratefully printed a long list of such, which contributions "in kind" ranged from twenty-two pounds of hardware to a pound of tea. So, after all, it is easy to be an angel of the Arctic. One can conceive of circumstances in which the pound of tea would be worth more to a traveler in the polar region than twenty-two pounds of hardware—or money.

Much interest must forever attach to the discovery of the compass, and especially now that the useless device has been instrumental in the discovery of the North Pole. For a period the honor of the invention was ascribed to Giola, a pilot, born at Pasitano, a small village situated near Amalfi, about the end of the thirteenth century. His claims, however, have been disputed. Much learning and labor have been bestowed upon the subject of the discovery. It has been maintained by one class that even the Phœnicians were the inventors; by another that the Greeks and Romans had a knowledge of it. Such notions, however, have been completely refuted. One passage, nevertheless, of a remarkable character occurs in the works of Cardinal de Vitty, Bishop of Ptolemais, in Syria. He went to Palestine during the fourth crusade, about

the year 1204; he returned afterward to Europe, and subsequently back to the holy land, where he wrote his work entitled "Historia Orientalis," as nearly as can be determined, between the years 1215 and 1220. In chapter 91 of that work he has this singular passage: "The iron needle, after contact with the lodestone, constantly turns to the north star, which, as the axis of the firmament, remains immovable while the others revolve, and hence it is essentially necessary to those navigating on the ocean."

These words are as explicit as they are extraordinary, they state a fact and announce a use. The thing, therefore, which essentially constitutes the compass must have been known long before the birth of Giola. In addition to this fact, there is another equally fatal to his claim as the original discoverer. It is now settled beyond a doubt that the Chinese were acquainted with the compass long before the Europeans. It is certain that there are allusions to the magnetic needle in the traditionary period of Chinese history, about 2,600 years before Christ, and a still more credible account of it is found in the reign of Chingwang of the Chow dynasty, before Christ, 1114. All this however, may be granted without in the least impairing the just claims of Giola to the gratitude of mankind. The truth appears to be that the position of Giola in relation to the compass was precisely that of Watt in relation to the steam engine— the element existed; he augmented its utility. The compass used by marines in the Mediterranean during the twelfth and thirteenth centuries was a very uncertain and unsatisfactory apparatus. It consisted only of a magnetic needle floating in a vase or basin by means of two straws on a bit of cork supporting it on the surface of the water.

The compass used by the Arabians in the thirteenth century was an instrument of exactly the same description. Now the inconvenience and inefficiency of such an apparatus are obvious—the agitation of the ocean and the tossing of the vessel might render it useless in a moment. But Giola placed the magnetized needle on a pivot, which permits it to turn to all sides with facility. afterward it was attached to a card, divided into 32 points, called rose de vents, and then the box containing it was suspended in such a manner that, however the vessel might be tossed, it would always remain horizontal.

CHAPTER XXXV.

THE STORY OF HARRY WHITNEY.

As was to be expected, the Cook-Peary controversy entered into many phases. One of its most interesting angles was that concerning Harry Whitney, the young New Haven sportsman who met Cook after the latter's return.

Dr. Cook early in the debate, named Whitney as having proof of the North Pole discovery in his possession. These proved later to consist of instruments —a sextant, compass, etc.—and articles of clothing. To the surprise of people everywhere, Whitney reported on reaching Labrador that Cook's property was not in his possession.

He sent this telegram home on his arrival at Labrador:

"S. S. Strathcona, Indian Harbor, Labrador, via Marconi wireless. Cape Race, N. F., Sept. 25.—I know not the extent of the contents of the box left in my charge by Dr. Cook to be brought back. No vessel having arrived for me at Etah before the Roosevelt returned from the north, I started home on it. Commander Peary would not allow anything belonging to Dr. Cook to come aboard his ship. I was forced to leave the articles in a cache at Etah.

"On Dr. Cook's arrival at Annotook in April, 1909, he told me he had discovered the North Pole, also showing me maps and requesting me to withhold information from Commander Peary, but permitting me to say that he had gone farther than Peary had gone on his last expedition.

"HARRY WHITNEY."

On arriving at St. Johns, N. F., Mr. Whitney made a more extended statement: He said Cook arrived at Annotook in April of this year and declared that he had reached the North Pole a year before. He pledged Whitney, however, not to tell Commander Peary, who was to be informed only that Cook had gone farther north than Peary's previous record, 87 degrees 6 minutes. Continuing, Dr. Cook told Whitney that he had accomplished all he expected to, and more besides, and that he was through with the northern country. Whitney did not communicate the latter part of this statement to Commander Peary. Continuing, Mr. Whitney said that Dr. Cook had complained to

him of Peary's taking over of his house and stores, but declared that he had suffered no unfairness.

There were two houses on the Greenland shore, one at Annotook, holding Cook's stores, and another at Etah, holding Peary's stores. The three white men, Whitney, Murphy and Pritchard, Peary's steward, sometimes occupied one and sometimes the other of these houses. Murphy was in charge of both houses. He is not able to read or write. He had written instructions from Peary, which Whitney, at Peary's request read over to him from time to time. These instructions were stringent. They directed Murphy to use Cook's stores first and Peary's afterward. Murphy was told in them that he was to give Dr. Cook every help if he came along in a needy condition, and furthermore the instructions implied that Murphy was to organize an expedition to search for Dr. Cook, but, according to Mr. Whitney, this part of the instructions was worded very ambiguously. Mr. Whitney said that Cook had a copy of these instructions. Murphy treated Cook very civilly and Cook suffered no discourtesy.

When Dr. Cook and his Eskimos arrived at the house they had no sledge; being too tired to drag it over the rough ice, they left it twenty miles from Etah. The following day some other Eskimos went out, recovered the sledge and brought it in. On it were Dr. Cook's instruments, clothes and food.

After passing two days at Annatook, where Cook first met Whitney, Cook started for Etah. Whitney accompanied him. Cook remained for three days at Etah, organizing for his trip south to Upernavik. The doctor had figured out rightly the date that he would likely get to Upernavik and when the Dundee whalers or the Danish store ships would reach there, and he argued that he had no time to lose. He planned originally to take two Eskimos and two sledges, but one Eskimo fell sick and this made it necessary for him to cut down the luggage he could take with him south. He consequently asked Whitney to take charge of the instruments with which he had made his observations at the pole.

There were three cases, one containing a sextant, another an artificial horizon, and the third an instrument which Mr. Whitney said he could not recall. It hight have been a chronometer. Cook left no written records with Whitney that Whitney was aware of. There may have been some records, however, in the other boxes in which Cook packed his clothes and his personal effects, but Cook did not tell Whitney especially that he was leaving any written records with him. Mr. Whitney was very positive about this.

After Cook departed for the south Whitney resumed his hunting. He took over Cook's two Eskimos to show him the country where Cook had shot musk oxen. This the two men did, and Whitney bagged all the oxen he could carry out in his sledges. He said he found these two Eskimos to be satisfactory in subordinate capacities, but he knows nothing of their value in a dash across the polar sea.

Continuing Mr. Whitney said that in August when Peary on board the Roosevelt reached Etah from the north after his winter's work there, he (Whitney) informed him of Dr. Cook's arrival in April adding that Cook had told him (Whitney), to tell Peary that Cook had gone beyond Peary's farthest north. Peary made no comment on this, and Whitney said he was not asked any other questions by Peary. But the next day Cook's Eskimos came to Whitney and asked him what Peary's men were trying to get them to say. Peary's men had shown the Eskimos papers and maps, but the Eskimos declared that they did not understand these papers. So far as Mr. Whitney is aware, Cook's Eskimos never admitted that while with the doctor they had only progressed two "sleeps" from land.

When Commander Peary heard of Whitney's statement he said:

"At Etah, on August 17 or 18, after the arrival of the Roosevelt, and after I invited Whitney to come on board the Roosevelt with all his belongings and trophies, I having extended the invitation in view of the uncertainty of the movements of his own ship, which he had expected to arrive about the first of August and which had not yet appeared, Whitney told me he had some foxskins—six, I think—and some narwhal horns which Cook had sent back after leaving Etah for Danish Greenland, with the request that Whitney take them home with him on Whitney's ship. Whitney also told me that Cook had given him (Whitney) the sledge with which Cook had returned to Etah in April.

"I then told Whitney that I did not care to have anything belonging to Cook on board the Roosevelt, and that all I wanted from Whitney was that he would give me his word that he would not bring on board the Roosevelt anything belonging to Cook, which promise he instantly gave me. Later while engaged in packing up and bringing to the ship his things Whitney came and told me he also had some clothes and instruments, belonging to Cook.

"I told Whitney that these, as well as the foxskins and narwhal horns, he could put in a cache at Etah or leave in charge of Eskimos for Cook, whichever he though best. Just before the Roosevelt left Etah he told me that

he personally had seen that these things had been left in a cache and had told the Eskimos that they had been left there for Cook.

"I also told the Eskimos that they were to leave the cache undisturbed and that they were not to break up Cook's sledge. Later I heard the report that the instruments were the ones that Cook had used during his sledge journey, but I gave the report no credence, as I could not conceive of a man leaving instruments of that kind out of his own sight or in the hands of a stranger.

"Still later, after leaving Eskimo land entirely, and during the voyage home, I heard a report that Cook also had left with Whitney a flag he had carried with him on his sledge journey. No one seemed to know anything definite about this, and I paid no attention to the report for the same reason as before. After getting in contact with the world I learned that Cook was reported to have said that he left records of his sledge journey for Whitney to bring home. I never had heard anything of the kind and discredited this report as well.

"While knowing nothing of the matter, I do not believe Cook left either his records or his instruments or flags with Whitney. I cannot conceive it possible for a man under those circumstances to have left such priceless things out of his sight for an instant. As he went across Melville bay to Danish Greenland with three or four sledges and teams of dogs, his instruments, his records, and his flags scarcely would have added a featherweight to his burden.

"ROBERT E. PEARY."

Peary had more to say, too. He pointed out that Dr. Cook alleged he in one sledging season had covered twenty-five degrees, or 1,700 miles, of Arctic ice, when no previous explorer, notwithstanding vastly better equipment, ever had covered more than eleven degrees of that most difficult going on the universe.

"It is well known," said Peary, scoring what his bitterest enemy must regard as a staggering blow to Cook's case, "what my equipment was when I started north from Cape Columbia. The world has read of my equipment and the world knows what my experience was in the Arctic field. Yet I did not make quite fourteen degrees in my last and only successful dash to the pole."

Peary pointed out with a smile that showed every one of his gleaming teeth and ruffled the bristles of his great sandy mustache that Dr. Cook had taken one sledge on his 1,700 mile journey over Arctic ice. This was the sledge that Cook left behind him at Etah.

"I examined that sledge," said the commander. "Yes, I looked over it carefully. So did Hensen. So did McMillan. They know sledges, I guess, and so do I. Was it anything like my Morris K. Jessup sledge? (Peary's shoulders shook, though at the same time he gritted his teeth). I should say it was not anything like the Morris K. Jessup sledge.

"That sledge of Cook's was built along lines of no sledge I ever saw before. Why, I don't believe that sledge would last one day over Arctic ice with a standard load of 500 or 600 pounds."

Getting down to the Whitney phase in his controversy with Cook Peary asked a few questions.

"I would like to know," he said, "why, if Harry Whitney knew the value of these instruments and proofs that Cook intrusted to his custody—to the custody of a man practically a stranger—he did not sail back to Etah on the Jeanie for these things? Why did he come away from Smith's sound and leave those treasures to the mercy of another Arctic winter?

"Let me point out," ran on Peary, "where the Jeanie was when I last saw Mr. Whitney. I picked up Harry Whitney at Etah on Aug. 17 and we ran down the sound about 100 miles to Saunder's island. Clear water and fair winds; fine going.

"At Saunder's island the Jeanie came along. We went into North Star bay so that the Jeanie could transfer the coal it had for me to the Roosevelt. Then we ran out into open water again. Whitney was aboard the Jeanie. He was one day's sail from Etah. He had clear, free water along the eastern shore of the sound.

"Did Whitney run back to Etah for those immensely valuable records and instruments of Dr. Cook? He did not. He sailed directly west, where the ice was packed against the western shore. He wanted a bear. He cared more about a bear than he did about Cook's property. He would not do without two days of his hunting to go back for what he says now he knew was Cook's proof of the discovery of the pole."

Then, to add a touch of the dramatic, Peary related that whereas Dr. Cook had left his polar flag, his instruments, and records to the mercy of a stranger at Etah, he (Peary, had sewn his flag into his undershirt, sewn his records into his clothing, and taken every precaution humanly possible to guard his instruments against destruction.

"Why," cried Peary, with a savage sneer, "I would not have intrusted those things to my father, mother, or brother, to any human being. They

were sewn to me; fastened to me; and would have gone to the bottom of the Arctic with me before I would have turned them over to a soul."

Aside from his scanty equiptment, his lack of experience, the condition of his sledge when I saw it at Etah," continued Peary, "aside from the clumsy and poorly made snowshoes that afterwards were alleged to have traveled over 1,700 miles of Arctic ice; aside from the fact that no other explorer ever had negotiated more than eleven degrees, I have further information from all the Eskimos to back me up in my assumption that Cook has not gone over the sea ice to the pole."

"What is your strongest line of proof that Dr. Cook was not at the North Pole?"

"One of my main points will be the strongest that has been advanced in Arctic exploration ever since the first great expedition was sent there—that is, the recognized custom of an explorer, when reaching a point attained by an explorer previously, to make a copy of the records in the cairn there, put it in place of the original, and bring the original back with him. Dr. Cook did not do this.

"At Cape Thomas Hubbard I left a record in 1906. Dr. Cook declares after he left Annotok he went to Cape Thomas Hubbard with his large party of Eskimos. Although he had men enough to make a thorough search he did not do so. He passed the cape twice to the pole as he outlines it, but neither time did he say that he had looked for the cairn. My record is still there. If he can show that record I will accept it as positive proof that he was at Cape Thomas Hubbard.

"It was at Indian Harbor that I received a message saying that Cook was at Copenhagen, and that he was making the claim he had reached the pole.

"It was then that I sent my message saying that I knew Cook had not gone far from land. The two Eskimos who had been his company had assured me of this, and their statements had been corroborated by other Eskimos. I had seen every one of every tribe all the way from Cape Columbia to Cape York. I had visited every settlement in Eskimo land, and had complete corroborative evidence from all as to what the first two had said."

Shortly after this talk, the Peary charges against Cook were lined up as a sort of formal indictment, the "counts" in which ran as follows:

"1. Mr. Peary and Matt Henson, either individually or together, talked with every member of the Smith Sound tribe of Eskimos and obtained testimony that corroborates that of E-tuck-a-shoe and A-pel-lah, the Eskimos who accompanied Dr. Cook, that Dr. Cook had not been out of sight of land.

"2. In violation of a custom of Arctic exploration Dr. Cook has not brought back records left in cairns at points he asserts he had reached, notably the one left at Cape Thomas Hubbard in 1906 by Mr. Peary.

"3. Dr. Cook's story that he traveled from Annotook to the pole and then back to Jones' Sound, a distance of more than twenty-five and one-half degrees, or about 1,700 miles, in one sledging season is impossible. He points out that this is more than twice the best previous record of eleven degrees, and Mr. Peary's best record this year of fourteen degrees.

"4. Cook's general equipment was such that it would be a physical impossibility to have accomplished the feat.

"5. Dr. Cook maintains he carried a glass mercurial horizon on his trip of 1,700 miles, whereas Mr. Peary used a cast-iron horizon, so that it would not only be saved from being broken but could be heated if the mercury froze. This is necessary sometimes, Mr. Peary contends, as mercury freezes at minus 35. Cook reports finding it as cold as minus 73 degrees.

"6. Professor Marvin brought back from 86.38 duplicate records of Mr. Peary's march and of his own to prove absolutely that Mr. Peary reached that latitude.

"7. Captain Bartlett brought back from 87.48 duplicate records of Mr. Peary's march and of his own to prove absolutely that Mr. Peary reached that latitude.

"8. The sledge of Dr. Cook's was of such a type, not built on the lines of any Arctic explorer's sledge, that it could not possibly have lasted for a march of a day with a standard load of 500 or 600 pounds.

"9. Dr. Cook's snowshoes were of an impracticable type for use in the Arctic and were not the kind that would conduce to speed.

"10 Dr. Cook's leaving of his records at Etah was a scheme on his part by which he could claim they were lost or destroyed and so could escape being forced to produce them to substantiate his claims.

WOULD NOT GIVE UP FLAG.

"11. No man who had carried the American flag to the pole would leave such a slight and easily transported article in charge of a perfect stranger.

"12. Dr. Cook did have fresh dog teams from Etah and could have carried his burdens to Upernavik.

"13. When Harry Whitney went on board the Jeanie, he did not take

time to go back to Etah and get the articles he must have known were valuable to Dr. Cook.

"14. If Dr. Cook did leave such priceless articles at the Eskimo village, Mr. Whitney would have been anxious to have rushed them to the United States."

Dr. Cook, while this broadside was being issued, was delivering the first of his lectures. After it he replied to some of the Peary charges, saying:

"The only sledge Commander Peary saw was half a one, which I had given to Mr. Whitney as a souvenir. The remainder of it had been used to make bows and arrows.

"As to my reasons for leaving my instruments with Mr. Whitney, he had told me that the Eric was coming to Etah and would take him over to the American side to hunt big game and would come back later to Annotook. The distance from Annotook to Upernavik by the route which I was compelled to follow was nearly 700 miles. In that journey I had to travel over high land in two places, with glaciers and difficult places. The ice was extremely rough and there was a good deal of water to be expected that would have subjected the instruments to a risk which was entirely unnecessary, when Mr. Whitney awaited a ship to go to Etah for him upon which he expected to return direct to America.

"By going to Upernavik I hoped to get back by the end of July or the middle of August, while Mr. Whitney did not expect to get back before October.

"As to the charge that I had not found traces of Commander Peary's records at Cape Thomas Hubbard: The point which Commander Peary would call Cape Thomas Hubbard is a round promontory, and it would be difficult to find any distinct point which could be positively recognized as Cape Thomas Hubbard. From Commander Peary's map I am absolutely unable to locate Cape Thomas Hubbard. We did not search for any cairn where records might be deposited. In fact, I did not know that Commander Peary had left any record there.

CHAPTER XXXVI.

WONDERS OF THE ANTARCTIC WORLD.

Many interesting facts were gleaned by the Shackleton expedition to the Antarctic. The South Pole is situated on an Antarctic continent, somewhat larger than Australia, with an area of 4,000,000 square miles. True, it is almost entirely covered with ice, but the surface of the ice in most parts appears to be comparatively smooth, so that sledges can make good going over it.

The Pole is on a tableland about 10,000 feet in height. The glaciers of the Antarctic regions are of stupendous size, many of them incomparably larger than the largest Arctic glaciers.

The Great Ice Barrier is an Antarctic glacier 700 miles wide and hundreds of miles broad in places. At its northern edge it presents a continuous wall of ice, in some places 300 feet in height and seldom less than 100 feet. It extends across Ross Sea from King Edward VII's Land to McMurdo Strait, and is at least the size of France in area. The breaking off of portions of the northern edge in summer produces the greatest crop of icebergs in the world.

In no other part of the world do frost and fire hold such divided sway. On the mainland of Antarctica there are numerous volcanoes, at least one of which, Mount Erebus, is active. One of the strangest things about Antarctica is that many of its mountains are built partly of snow—that is to say, with layers of snow between strata of lava and ashes. The ashes thrown out by the volcanoes fall cold, and form a sort of cake which is an excellent non-conductor of heat. Then molten lava flows over the crust of ashes without melting the snow beneath, and in this way glaciers are actually sealed up under layers of rock.

Mount Erebus lies within sight of Cape Royds, now the favorite ship headquarters of Antarctic explorers. It was discovered by Sir James Clark Ross, who led a famous expedition to the Antarctic regions in 1843. The ascent of Mount Erebus to its summit was regarded as almost impossible, but this was one of the first feats accomplished by Shackleton's expedition.

Six men made the ascent. On the third day, at an altitude of 8,700 feet, they were caught in a blizzard so terrific that it blew the gloves off one of the

party, Sir Philip Brocklehurst. The next day they camped on the rim of an old crater and explored its floor. Their attention was attracted to some curious mounds dotted over the snow plain. They found that they were fumaroles, or smoke holes, which in ordinary climates may be detected by the thin cloud of steam above them. The fumaroles of Erebus have their steam converted into ice as soon as it reaches the surface of the snow plain, and the result has been the creation of the remarkably shaped mounds. The ice was colored yellow on account of the sulphur.

On the sixth day they reached the edge of the active crater and found themselves on the lip of a vast abyss filled with a rising cloud of steam.

"After a continuous loud, hissing sound," writes Lieutenant Shackleton, "lasting for some minutes, there would come from below a big dull boom, and immediately great globular masses of steam would rush upward to swell the volume of the cloud which swayed over the crater. The air was filled with the fumes of burning sulphur. Presently a light breeze fanned away the steam cloud and at once the crater stood revealed in all its vast extent and depth. It was between 800 and 900 feet deep with a maximum width of half a mile, and at the bottom could be seen three well-like openings from which the steam proceeded. On the wall of the crater opposite to the party beds of dark pumice alternated with white patches of snow, and in one place the presence of scores of steam jets suggested that the snow was lying on hot rock."

The descent was rapid, for the party dropped down 5,000 feet in four hours by sliding down the long ice slopes.

The explorers ascertained the height of the mountain to be 13,350 feet.

It is probable that the South Pole itself is buried beneath as much as 5,000 vertical feet of everlasting ice. For this reason, on account of the altitude above the sea, its neighborhood may be expected to be colder than that of the North Pole. Then again, because there is no water to render the climate milder, it may be supposed that the temperature at the southern end of the earth's axis is lower than at the northern end.

It is deemed not at all impossible that somewhere in the neighborhood of the South Pole there may be a comparatively warm patch—a sort of oasis in the midst of the icy desert, like Whale Sound in the far north. In such an oasis, if it exists, may be found strange forms of life, of which we know nothing. There might even be people there—human beings unlike any we are acquainted with, who, for uncounted centuries, have been shut away from communication with the rest of the world.

Lieutenant Shackleton, Captain Scott and others were puzzled by the occurrence of a wind blowing from the South Pole considerably warmer than the previous temperature for this point. Captain Scott writes:

"The warm snow, bearing southerly winds, which we experienced, have not yet been explained. Even in the depth of winter this wind had a temperature of ten to fifteen degrees."

This alone suggests that there may be comparatively warm valleys or regions somewhere in the Antarctic continent.

It is a most extraordinary fact that vast as is the accumulation of ice in the Antarctic continent, it is less than it used to be, and is gradually diminishing. Lieutenant Shackleton found traces of glaciers on Mount Erebus 1,000 feet above the sea level. As the adjacent sea is 1,800 feet deep, the ice sheet at one time must have been 2,800 feet thick.

Most of the glaciers in Antarctica are dying, that is to say, decreasing in size and not flowing. Strange to say, meteorologists argue that the diminution of ice indicates that the climate was formerly milder than now. Ice and snow only accumulate where there is occasional warmth with moisture and variations of temperature. A continuously dry cold does not favor the accumulation of ice and snow.

Geological conditions indicate that Antarctica was once linked by land to South America and Australia and that it then possessed vegetation and abundant human and animal life.

Little is known of the interior of Antarctica. Shackleton has made a dash into it so rapid that he had no time for careful research, while other explorers have merely scratched the edges of the land. No fossils have been brought back and very few geological specimens of any value. These are points to which the next explorers will devote their attention.

Nunataks are a curious feature of the Antarctic landscape. They are sharp, black rocks which stick up out of the snow and are very prominent in Summer. Sastrugus is the name given to curious hillocks of snow that also form in Summer.

It was at Cape Adare, where there is a break in the environing ice cliffs, that Ross, in 1842, with his two little sailing ships, the Erebus and the Terror, made his way as far to the south as latitude 78 degrees 10 minutes.

This place is remarkable because the temperature at the base of the high cliffs is unusually warm—sometimes up to 50 degrees in summer—and much curious Antarctic vegetation is found there.

Although a great continent exists at the South Pole, there are no land mammals, properly so-called. There are no South Polar bears, there are no Antarctic foxes, there are no large mammals of any kind save whales, which live entirely in the water, and seals, which spend more than half their time there.

To make up for these deficiencies the seals are the largest found anywhere, and the birds are most extraordinary. All the animals—whales, seals, birds and fish—are very different from those found in the Arctic circle or other parts of the world.

The Antarctic continent has a vegetation that consists almost entirely of moss and lichen and the land animal life, properly so-called, seems to be limited to a primitive form of wingless insect. The birds live to some extent on land, making their nests in the moraines and rocky cliffs of the shores, but they find their food entirely in the ocean.

Seals and whales are extremely abundant in Antarctic waters. Seven different species of whales and dolphins have been found in Ross Sea, a great body of water running into the Antarctic continent. In this sea five different kinds of seals were found and twelve different species of bird.

The most remarkable whales of the Antarctic seas are the terrible killers or Orca whales, which scour the seas and the pack-ice in hundreds to the terror of seals and penguins. The killer whale is one of the most ferocious animals in existence and is far more savage and destructive than tiger or shark. Naturally the few men who reach the Antarctic circle rarely indulge in ocean bathing there, but if they did they would run a terrible danger from the killer whales.

The killer is a powerful piebald whale some twenty feet in length. It hunts in large packs of a score or many score. No sooner does the ice break up than the killers appear in the newly formed leads of water, and the penguins show that they appreciate the fact by their unwillingness to leave the melting ice floes.

From the middle of September to the end of March these whales swarm in McMurdo Strait, and the scars they leave on the seals, more particularly on the crab eating seal of the pack ice, afford abundant testimony to their vicious habits. Not one in five of the pack ice seals is free from the marks of the killer's teeth, and even the sea leopard, which is the most powerful seal of the Antarctic Ocean, has been found with fearful lacerations. Only the Weddell seal is more or less secure because it avoids the open sea.

Beak whales are also seen in schools from time to time, and Lieutenant Shackleton saw a whole school of ten "breeching" in McMurdo's Strait. Every now and then one would leap clean out of the water and fall back with a resounding smash.

The most remarkable animals of the Antarctic region are the seals. There are five Antarctic seals, the crabeating or white seal, the Ross seal, the Weddell seal, the sea leopard and the sea elephant. Of these the first three are found only within the Antarctic Circle, while the others wander considerable distances away. Seals do not usually travel long distances by sea, but the sea elephant seems to be an exception, as it is found from the Antarctic Circle to the coast of South America. The sea elephant must be an enormous creature. Only one specimen has been found in recent polar expeditions, and he was a young male eleven feet in length, with a girth of no less than eight feet under the fore flippers.

The sea leopard is smaller than the sea elephant, but much more ferocious. It runs to twelve feet in length and has a girth beneath the flippers of six feet. Its head is large in proportion to its body, and it has a terrible array of sharp teeth. It is very long and snake-like, and moves like lightning through the water, where its diet includes not only fish and emperor penguins, but sometimes other seals. It has ten three-pronged canine teeth, made for tearing flesh to pieces. The sea leopard has only one enemy to fear in the Antarctic seas, and that is the killer whale.

The crabeater seal lives entirely upon a shrimp-like crustacean, which it collects in large numbers in mud and gravel by groping along the bottom of shallow seas.

The Ross seal has the astonishing power of withdrawing its head within the blubber-laden skin of the neck till its face is almost lost. The teeth of these seals are extremely interesting to naturalists, for the after canine teeth are in the process of disappearing, showing that the conditions of life in the Antarctic regions have greatly changed since earlier ages. The front teeth also have been developed into curved hooks for dealing with such slippery prey as jelly fish and squids, which apparently form their food.

Among the many Antarctic birds is the giant petrel, which lives on carrion refuse about the penguin rookeries. It is often to be seen squatted in the ice-floes, gorged by a full meal of blubber from a dead seal, and finding itself pursued it will deliberately disgorge before it attempts to fly, knowing from experience that even a lengthy run will not enable it to rise unless it empties its stomach first.

The penguins, huge birds with tiny wings useless for flying purposes, are peculiar to the Antarctic regions. They always stand upright, and with great white bodies and black heads, they look like very fat colored men wearing white

waistcoats. There are two species of them in the Antarctic circle—the Adelie penguins and the Emperor penguins.

The penguins are declared to be the most amusing creatures in existence. When annoyed by an explorer the cock bird ranges up and down in front of his wife, his eyes flashing anger, and his feathers erect in a ruffle round his head. He stands there for a minute or two breathing out threats and then putting his head down dashes for the man and rains blows upon him with his flippers. When making love he waves his flippers to and fro and gazes heavenward, as if he were reciting the most exquisite poetry.

The greatest rookeries of the Emperor penguins are on Ross Island. This bird stands four feet high and weighs from eighty to ninety pounds. It hatches its eggs in absolute darkness in August, during the coldest month of the Antarctic year, when the temperature often falls to 68 degrees below zero. The Emperor penguin carries its single egg, and later its chick in a place between its right foot and its abdomen.

To return to the Arctic region, many remarkable facts have lately been learned, and it is said that the Eskimo, though gradually becoming civilized, does not welcome the white man's coming. Beside his igloo he sits and listens to the tribal rumors of the coming events. He hears the weird, garbled tale of how a "civilized man," a "kabhena," has reached the north pole. He hears that other white men will come after him. And he sits and grieves for his people; for the advance of the white man means to him only what it has meant to all the primitive people who thus have been "discovered"—extermination.

"Civilization of your kind we do not want," says the Eskimo to the explorer or missionary. "It is good, perhaps, for you and for your countries. It is not good here in the north. We cannot live under it. As we live now so must we live if we are to exist. It is our life; and life is good here among these ice cliffs when it is lived in our own way. We are content. So have our forefathers lived from time immemorial. And so will we live as long as we remain on earth. Force us to live as you live, make us accept your civilization, and we perish. We have seen it. We know what it does to us. It kills the Eskimo. Leave us to our ways, leave us to our country, or the Eskimo will be wiped off the face of the earth."

Such is the Eskimo's reception of the great news. It is something like a shock to our self-satisfaction and opinion that our civilization is best for all people, whether they like it or not. How can those poor people up there in the frozen north spurn the benefits that civilization holds forth to them? How can

they fail to realize that civilization will make their harsh life easier, more pleasant, more happy? The questions come naturally at the idea. It seems preposterous. But when one comes to examine the mode of living of the winter bound Eskimo, along with the conditions under which he is forced to exist, it seems not so astonishing that the Eskimos should say: "We were a happy people until the explorers came. The explorers brought their civilization, and that is not well."

Living in a land so barren and harsh that nowhere else on earth is its duplicate to be found inhabited, the Eskimo through centuries of struggle has adopted the only mode of living that makes his existence possible. The land which other people despise, the conditions under which no other people could live, he has learned to love. They are his world, and without them he could not live.

Resources such as the world looks upon as necessary to the maintenance of life the country has none. It is a barren of never changing ice and snow. Stones, pieces of driftwood, reindeer, birds, dogs, fishes, and, most of all, seals —these are the things that are given the Eskimo to live on. The stones, sticks, and bones furnish him with weapons. The weapons furnish him with meat. For his house there is the stone, the ice, and snow, nothing more. For six months of the year his world is in darkness. Yet he lives and is happy until the explorers come.

As told to some extent earlier in this chapter, the winter house of the Eskimo—the igloo—is perhaps the most striking illustration of how bitter is the fight to maintain life in the killing cold of the arctic circle. It is built of ice and snow mainly, though in some cases stones and blocks of frozen earth are used, and its floor is sunk far below the level of the earth or ice upon which it is erected. A narrow passage dug in the earth, lower than the floor, serves as the only means of entrance and exit, and the Eskimo goes into his house on his hands and knees.

Along one wall is the "sleeping bench," about six feet wide, which serves for a bed for the entire family. In the center of the room is the lamp, which often serves as a stove as well. This is the sum total of the Eskimo's household furniture.

In order to economize the life saving heat several families dwell together in one hut. In the winter house so excessive is the heat that the thick fur garments of outdoor use are discarded upon entrance. Among some tribes men, women, and children dwell together in a complete state of nudity, in others a

small loin cloth is used for indoor wear. Night and day the stone lamps filled with train oil burn in the huts. The Eskimo is superstitious of all things. The long arctic night has driven the fear of darkness into his soul, and he will not even sleep without a light burning before his eyes.

The lamps are so constructed as to burn brightly all night. When they begin to grow dim the Eskimo woman knows that it is morning and time to get up. Cheerless as such a home may seem, it is declared to be quite the opposite. The woman who wakes first in the morning calls out to her neighbor a chal-

THE NORTH POLE FOUND.

lenge for a race in dressing and going out after the morning meal of fish, which is cached in the ice outside. The challenge is accepted. The women dress and rush out laughing, break off great armfuls of the frozen provender and come back laughing to their still sleeping companions. The fish are thrown on the floor until they have thawed from hard as stone to a mere frozen condition. Then the two women who are dressed pass the food around to the others, and soon the whole houseful are gnawing away at their fish breakfast.

It doesn't sound appetizing, but even the explorers who have wintered on this food declare that there are worse things to eat in the morning than a frozen fish—after you get used to it.

"The eating is not the trouble," says the returned adventurers, "it is the getting of it that gives the Eskimo a problem."

"The getting of it," the procuring of food in the waste of snow and frozen waters, is more of a battle for the native than the problem of housing himself against the wintry blasts. Hunting is his one means of living, whether it be hunting reindeer, ptarmigan, seal, or fish. As a consequence the hunter is the "great man" in the economy of Eskimo life, and the importance of a man is reckoned by his ability to kill seals. The best hunter in a village is the king. He has his pick of the women, and he exercises it with a freedom rather startling to conventional ideas of matrimony.

"Without hunters a tribe cannot exist," is the Eskimo's point of view, and the tribes that have perished are the ones in which there were no strong, able men to kill game for food.

Armed with the most primitive of weapons, a piece of sharpened stone fitted in a stick of wood to make a lance, the Eskimo hunts and slays the animals of his country, from the swift flying ptarmigan to the ferocious polar bear. The sea is where he must look for most of his subsistence, for the sea holds the seal, and without the seal the Eskimo could not live. The seal furnishes him food and clothing; its fat provides the oil which lights his lamps and cooks his food, and its bones and skins make the boat in which the tireless native paddles over the stormy seas in search of his prey.

The Eskimo boat, the "kaiak," is his greatest invention, and the only small paddle boat so constructed that it can live in the roughest sea. It is shaped like a canoe, pointed at both ends, its decks covered with the exception of the hole in which the hunter sits, which is large enough only to admit his body. With his paddle in his hands, his harpoon slung across his shoulders, and the prayers of his women following him, the hunter sets forth in the teeth of a gale to slay a seal that has been sighted a mile off shore.

He rides up and down the sides of mountainous waves like a sled upon a hill. He laughs at the efforts of the storm to swamp him. He comes within sight of his prey; the seal ducks; the Eskimo, knowing his custom, paddles swiftly in the direction of the dive. When the seal comes up for air he is within easy striking distance. The bone harpoon goes home with a thud; and the hunter turns his boat for shore. He has made his kill.

In the summer time tents take the place of houses. As soon as the sun begins to appear, sometimes in April, the Eskimo comes out of his hibernation, gets ready his "woman boat," and his camping outfit, and goes roaming. The "woman boat" is a large rowboat, capable of carrying a score or more people, and has its name from the fact that it is rowed by the women. In such a boat the Eskimo sets forth and rows until a favored camping ground is found. Then the whole party disembarks, tents are set up, and the camp remains so long as the hunting is good. When that is gone, into the boats again and on to another hunting ground.

Of the kindness and catholic hospitality of the Eskimo there is but one verdict—they are the kindest and most hospitable people in the world. Even wrecked explorers whose coming means only that they will consume a certain amount of the common store of food, are hailed with the greatest delight, the best is set forth before them, and they are invited to make themselves at home for as long as they please. In one instance an explorer relates that a murderer was taken in, fed, housed, and cared for through a hard winter by the family of his victim!

"Do some people in your land starve and shiver while others eat much and are warmly clad?" was one of the questions that the shocked Eskimos put to an explorer when he expressed surprise at their charity. "Why, then, do you call yourself civilized?"

It was a puzzling question. The explorer was forced to admit that "some did."

"Then why do you ask us to accept your civilization?" demanded the Eskimos. "Here that never happens."

So the "poor, frozen native of the north" does not yearn for the civilization that threatens him. He is satisfied as he is. He eats his fish, kills the seal, sings his peculiar songs, and asks only one thing from the civilized world—that he be left alone. And that is the one thing which probably will not be granted him.

CHAPTER XXXVII.

HOW THE DUKE OF ABRUZZI, WHO NEARLY FOUND THE POLE, CLIMBED THE HIMALAYAS.

Details of the Himalayan trip in 1909 of the Duke of Abruzzi, whose romance with Katherine Elkins was much talked of in 1908, shows this journey to have been the greatest mountaineering feat of the times. He reached a height of 24,500 feet above sea level,—this after a dangerous and thrilling journey at the head of a large party.

The duke had already been distinguished for his mountaineering work, and his Arctic explorations as well. He belongs in the front rank of those who sought the north pole. In 1900 he led an expedition to latitude 86 degrees, 33 minutes, breaking Nansen's record by about 23 miles. Abruzzi established his base of supplies on the north shore of Franz Joseph's Land, 480 miles from the Pole. He planned to make the polar dash in 45 days. The party started from the base on February 25, 1900. Violent winds and bitter cold proved a terrible handicap to the party's progress. On March 22, three men were sent back to establish communication with the base of supplies; but these men were never again heard from. On reaching latitude 86 degrees, 33 minutes, a shortage of food and the condition of the men made it necessary to turn back. Abruzzi left a cylinder containing a record of the expedition at this point, the farthest north up to that time.

Details of the duke's adventurous trip to the Himalaya Mountains, during which he reached the greatest height ever attained on this earth by man, were published in the Corriere della Sera of Milan. They were obtained by a representative of that paper, who boarded the steamer on which the duke was returning to Italy at Port Said, proceeding from there with the royal mountaineer and his companions to Marseilles. Abruzzi himself gave no description of the momentous trip. Though always courteous, according to the Italian newspaper man, his silence is absolutely impenetrable. But from his comrades the latter obtained an interesting narrative of the expedition, from its beginning last spring to the accomplishment of the record-breaking feat of its intrepid leader, on Bride Peak, in the Himalayas, on July 17, 1909.

LEFT MARSEILLES IN MARCH.

The expedition started from Marseilles on March 26 on the same Peninsular and Oriental steamer that brought it back two weeks before to that port. In addition to the duke himself, it consisted of Marquis Negrotto-Cambiaso, Abruzzi's aide; Vittorio Sella, a well-known photographer; Doctor De Filippi, and several Swiss guides, who had already been the companions of the duke on former mountain-scaling exploits. Negrotto, never having had any experience in mountain climbing, feared at first that he would be more of a hindrance than a help, but Abruzzi, who knew him evidently better than he knew himself, insisted that he form part of the expedition.

Sella, on the other hand, had been accustomed since early manhood to braving all sorts of perils in quest of photographs of mountain scenes. He was already acquainted, not only with the Alps and the Caucasus, but with the Himalayas themselves, the goal of Abruzzi's efforts. De Filippi, likewise, was already an expert Alpine climber.

EQUIPMENT OF THE BEST.

Fully two months before starting for India the duke had busied himself making complete preparations. He had made two trips to England for the purpose of providing all the necessary equipment. As a result of this foresight the equipment was of the very best, including, among other things, three different kinds of tents—those used in tropical countries, large and comfortable, but rather difficult to transport; Whymper tents, holding three people, and Mummery tents, very small, holding one person. There were also 60 cases, each containing all the necessaries for one day for 12 persons—everything, from tobacco to marmalade, from preserved meat to a stock of oil for the special stoves provided by Abruzzi similar to those used on polar expeditions. The members of the expedition were also provided with sleeping bags, of three thicknesses each; the first of goatskin, the second of feathers, the third, or outside one, of camel's fur.

On April 9 the expedition arrived at Bombay, proceeding on that same day by rail to Rawalpindi, which was reached on the 12th.

ESCORTED BY YOUNGHUSBAND.

There an entire day was spent in getting the impedimenta of the party in traveling order. The latter was sent on to Shrinagar in queer two-wheeled

native vehicles drawn by ponies and called "ekkas." The duke and his companions preceded these in European landaus, the local authorities having adjudged the native "dongas," commonly used for passenger transportation, unsuited to the august member of the house of Savoy. But it would have been almost as well for the duke to have gone to Shrinagar on foot, as the old vehicles made the journey very slowly and with such extreme difficulty that they pulled into Shrinagar in a pitiable condition, with some of their wheels held in place by ropes.

At Shrinagar the Italians waited from April 17 until the 23d, the delay being caused by the ekkas containing the baggage, which took their time on the road from Rawalpindi.

Finally they embarked in boats on one of the canals which have given Shrinagar the name of the "Venice of India," and proceeded to a village at the head of navigation of the canal, being escorted to that point by Sir Francis Younghusband, British Resident of Cashmere, famous as the man who entered the sacred Tibetan city of Lhassa at the head of British troops some years ago. In addition to this he had traversed the Himalayas twice and made several journeys through lands unknown before to white men, hence his interest in Abruzzi's contemplated feats was of the keenest.

AN ARMY OF 250.

After the farewells on April 24 to Sir Francis and to the wife of Dr. De Filippi, who turned back to await her husband's return at Shrinagar, the difficulties of the expedition began. The Italians were now accompanied by long lines of native porters carrying the baggage. Some of this was loaded on ponies, too, but many of the latter had to be abandoned along the way. In their place additional porters, natives of Cashmere, were collected from the neighboring valleys, until finally their total number of natives was 250. At the head of this small army marched the duke and his companions.

As they traversed the valley of the Sind they encountered deep snow everywhere, which, being fresh, made the danger of avalanches imminent. The expedition could advance with safety only early in the morning, or late at night, by the light of lanterns. After several days of this arduous marching the duke and his comrades reached the junction of the Dras and the Indus, proceeding from there to Skardo, the capital of Baltistan.

They were already at an altitude of 6,500 feet. Leaving Skardo on May 9 and following the valley of Braldon, partly on foot, partly on ponies, they

arrived on the 14th at Askole, last inhabited village of the valley nearly 10,000 feet above the sea.

Hereabouts was the easiest part of the journey. The valley was free from snow, covered with flowering trees, filled with pretty fields. Nevertheless, it had some difficult paths, traversed by rivers and mountain torrents, over which the expedition had often to pass on primitive rope bridges, some extremely long. It frequently took two or three hours to get the entire expedition over one of the bridges, as the construction is so frail as to allow at most two or three men to cross at a time.

THE BASE ESTABLISHED.

The first experience on a bridge of this sort, Marquis Negrotto told the Italian reporter, is not pleasant. To begin with, it oscillates frightfully. The water beneath, he added, seems to be motionless, while the traveler, on the other hand, seems to be flying through the air, driven along by the wind in an impetuous and fantastic career.

Of these wild scenes the intrepid Sella took many photographs, climbing frequently in order to take them to all sorts of perilous vantage points.

At Askole about 100 additional porters joined the expedition for the purpose of carrying the provisions for the other porters and of driving to the expedition's base at the head of the Baltoro glacier a small herd of cattle and sheep in order that fresh meat and milk might be available.

On May 18 the base was established at Rdokass, on a grassy spur extending over the glacier at a height of 13,000 feet. From that time on it served as a supply station for the duke in his advance over the glacier to the lofty peaks which he had resolved to scale.

K 2 IN ITS MAJESTY.

On the 21st he set out from Rdokass, leaving behind the majority of the natives to act as guards over the greater part of the provisions and baggage, which were in charge of an Englishman. Abruzzi and his companions marched for four days through the imposing solitude of the glacier, crossing spur after spur, until, on the 25th, after having averaged nearly 10 miles a day, they found themselves at the foot of the immense peak known as K 2, where they encamped and rested all night.

Here the work began in earnest.

The 26th of May dawned, livid with dense fog, which floated over the grim

rocks and over the fields of snow, on which no human being had ever set foot. The thermometer registered 10 below zero. Now and then the shroud of mist would be blown aside, revealing immense piles of rock, buried in eternal ice, seemingly stretching upward into the infinite. Already the duke was at an altitude of over 16,000 feet, much higher than the highest points of his own Italian Alps. He and his brave troop, standing in silence at the foot of the gigantic mountain, waited for the mists to clear and reveal to them the coveted peak.

At last, after several hours of waiting, the mist disappeared. K 2 appeared in all its majesty. Abruzzi decided to devote some time exploring the rocky base of the mountain. Its slopes, he surmised, were so steep as to render avalanches wellnigh inevitable.

The expedition was split up into small parties, which began to explore the approaches to the peak in order to find some point from which it might be attacked. With two guides the duke left his companions and spent four days trying to discover a way up the huge mountain. In the course of his investigations he scaled two neighboring peaks, both about 20,000 feet high, and visited the western part of the great glacier, hitherto unexplored, and the eastern part visited previously by Guilermood.

The result of his four days' work was to convince him absolutely that K 2 was inaccessible to man, no matter what efforts he might put forth to attain its summit. Hence the duke retraced his steps to the base of supplies at the head of the glacier, where, throughout the month of June, the members of the expedition devoted themselves to topographical and photographic work around the mountain and the adjacent country.

ASCENT OF THE PEAK.

At the end of June the little troop again took the road along the glacier, and climbed to the summit of the Windigab, 20,000 feet above the sea, in order to learn from there whether it would be possible to work downward into Little Thibet, where there are regions little known or entirely unexplored. They found that such a descent would be possible only without baggage, hence it would be merely a hunting trip, which the duke resolved not to make.

Instead he turned his attention to the Chogolisa or Bride Peak. Disappointed in his desire to ascend K 2, he made up his mind that he would not be foiled a second time.

The weather was very variable; perfectly clear days alternating with the

thickest mists. The marches became extremely arduous. Already the thin atmosphere which the members of the expedition had been breathing for many days began to show its depressing effects. Work which under other conditions would have been quite normal was accomplished now with three times the amount of effort that would ordinarily have been expended on it. The duke's companions began to lose their appetites, to feel disgust at the unchanging diet of canned meat, to snatch only brief and troubled naps. Abruzzi himself, however, seemed to keep all his powers intact. At meals his appetite was unimpaired; his periods of sleep continued to be long and refreshing.

The duke and his three companions, Marquis Negrotto, Sella and De Filippi, reached the foot of Bride Peak together. Negrotto and De Filippi remained there in order to make botanical investigations in the neighborhood and do topographical work. Sella, after a little climbing, turned back toward Rokass in order to take a panoramic view of the Mustag chain of mountains.

HIS SUPREME EFFORT.

As for the duke himself, he began with his three guides the ascent of the mountain, choosing as his starting point a camp located at a height of about 21,000 feet high.

The weather, which was very cloudy, compelled him to stay there for several days; but just as soon as the mists began to clear he ascended in two successive days' marches to a point nearly 2,000 feet higher up. From there some of the guides who had followed him thus far and who had been able to carry with them tents and provisions sufficient only for four persons returned to the camp situated near the base of the mountain.

The duke remained where he was one whole day. At dawn of the next, July 17, he began his ascent once again toward the peak.

He was making his supreme effort.

At 11 in the morning he had managed to get somewhere more than 1,200 feet higher. He now stood 24,000 feet above the sea. With him were three guides—Petigax and two named Brocherel. The mist had become so dense that further progress seemed out of the question. The four men, exposed at any instant to annihilation from falling masses of snow, shut themselves up in their shelters, waiting patiently on the perilous slope.

They waited until 3 in the afternoon. The mist became constantly thicker and thicker. The three mountaineers, without a word, turned their eyes on the duke.

Once more he gazed upward at the peak, which seemed to be eluding him as it lay in his very grasp. Then he took counsel with the three guides.

To climb any higher was impossible, they maintained. A few steps away not a thing was visible. The entire mountain seemed enveloped in gray, cold air. Man was obliged to yield before the invincible hostility, the insurmountable veto of nature.

For the last time the duke looked toward the peak.

"Let us descend," he then said, in a quiet voice.

A single march brought the four men to the camp established over 3,000 feet below. They were still four days' march distant from Footstool, at the base of Bride Peak, where the other Italians were encamped.

There, ten days after he had departed, the latter saw the duke unexpectedly reappear with his three guides.

"Well, your Highness?" they asked eagerly.

"Three hundred and eight, by the barometer," he replied.

That was equivalent, according to the calculations made with the instruments which he had taken with him, to 7,500 meters, or about 24,565 feet.

Luigil Amedo of Savoy, Duke of the Abruzzi, had broken the world's record for mountain climbing.

PREPARATIONS FOR RETURN.

At once preparations were made for the return of the expedition. On August 12 it was already back at Shrinagar, having taken from Askoue a route different from that chosen before. It led the duke and his companions over the Skoro, where, after so many miles of grim snow-covered rocks, they saw again a beautiful flowery valley which seemed to them the abode of eternal spring.

It was like a return to life. As they descended this valley, headed once more toward Skardo, not only De Filippi, the botanist of the party, but all of its other members were soon carrying, in their buttonholes and in their hands, great bouquets of myosotis, gentians, edelweiss, and other flowers.

From Skardo, instead of again traversing the Zoji-la, by which he had traveled previously, the duke headed for the valley of the Geosai, through which the expedition made its way back to Shrinagar. There they were met by Sir Francis Younghusband once more, and De Filippi found his wife, who had awaited him through all the weeks that he had been lost in the snowy fastnesses of the Himalayas. For two days the British Resident entertained Abruzzi and his companions at his summer home of Gulmarg. Then, after short visits to

Delhi and Agra, where he saw the old ruins of the time of the Moguls, they reached Bombay on August 25. On the 28th the P. & O. liner Oceana bore them out of Bombay harbor toward Europe.

All this was told to the Italian newspaper man mainly by the Marquis Negrotto and Sella, the photographer. As for the taciturn duke, he spent most of the days of the sea journey writing in the music room of the steamer, or else stretched out on his deck chair. Even when he took a walk on deck with the Marquis or another of his friends, he scarcely spoke at all. His eyes, says the Italian, seemed fixed on something far away, as if planning new expeditions to remote parts of the world.

FRUITS OF THE EXPEDITION.

According to Marquis Negrotto, the duke will be occupied for some time in getting into shape the great mass of scientific and other data collected during the course of their journey by himself and those who accompanied him. The most important part of these are the combined topographical and photographic records, in which both the duke and Negrotto were much interested before their departure. At that time they elaborated the combination of photographic and topographical work under the direction of Signor Paganini, of the Geographical Military Institute of Florence, the inventor of the photographic theodolite, who was the first, by means of this system, to obtain exact descriptions of Monte Rosa, Mont Cenis and other Alpine peaks. The system, however, had never been used before at such altitudes as those attained by the Abruzzi on his Himalayan journey.

CHAPTER XXXVIII.

MARVELS OF THE NORTH, AS TOLD BY NANSEN.

In an earlier chapter some account was given of Fridtjof Nansen's great drifting expedition in 1893. Since Dr. Nansen is one of the most poetic of writers no better description of the wonderful sights and scenes in the Arctic can be given than that furnished in his words.

Writing at the time when his ship, the Fram, was fast in the ice and being carried slowly on by the ice-drift, Dr. Nansen says in his book, "Farthest North":

"Tuesday, September 26th. Beautiful weather. The sun stands much lower now; it was 9 degrees above the horizon at midday. Winter is rapidly approaching; there are 14½ (fourteen and one-half) degrees of frost this evening, but we do not feel it cold. Today's observations unfortunately show no particular drift northward; according to them we are still in 78° 50′ north latitude. I wandered about over the floe towards evening. Nothing more wonderfully beautiful can exist than the Arctic night. It is dreamland, painted in the imagination's most delicate tints; it is color etherealized. One shade melts into the other, so that you cannot tell where one ends and the other begins, and yet they are all there. No forms—it is all faint, dreamy color music, a far-away, long-drawn-out melody on muted strings. Is not all life's beauty high, and delicate, and pure like this night? Give it brighter colors, and it is no longer so beautiful. The sky is like an enormous cupola, blue at the zenith, shading down into green, and then into lilac and violet at the edges.

VIOLET, BLUE AND PINK.

"Over the ice-fields there are cold violet-blue shadows, with lighter pink tints where a ridge here and there catches the last reflection of the vanished day. Up in the blue of the cupola shine the stars, speaking peace, as they always do, those unchanging friends. In the south stands a large red-yellow moon, encircled by a yellow ring and light golden clouds floating on the blue back-ground. Presently the aurora borealis shakes over the vault of heaven

its veil of glittering silver—changing now to yellow, now to green, now to red. It spreads, it contracts again, in restless change; next it breaks into waving, many-folded bands of shining silver, over which shoot billows of glittering rays, and then the glory vanishes. Presently it shimmers in tongues of flame over the very zenith, and then again it shoots a bright ray right up from the horizon, until the whole melts away in the moonlight, and it is as though one heard the sigh of a departing spirit. Here and there are left a few waving streamers of light, vague as a foreboding—they are the dust from the aurora's glittering cloak. But now it is growing again; now lightnings shoot, and the endless game begins afresh. And all the time this utter stillness, impressive as the symphony of infinitude. I have never been able to grasp the fact that this earth will some day be spent and desolate and empty. To what end, in that case, all this beauty, with not a creature to rejoice in it? Now I begin to divine it. This is the coming earth—here are beauty and death. But to what purpose? Ah, what is the purpose of all these spheres? Read the answer, if you can, in the starry blue firmament."

At another point Nansen's journal says:

AURORA BOREALIS BY DAY.

"Thursday, November 2d. The temperature keeps at about 22 degrees below zero (—30 degrees C.) now; but it does not feel very cold, the air is so still. We can see the aurora borealis in the day-time too. I saw a very remarkable display of it about 3 this afternoon. On the southwestern horizon lay the glow of the sun; in front of it light clouds were swept together—like a cloud of dust rising above a distant troop of riders. Then dark streamers of gauze seemed to stretch from the dust-cloud up over the sky, as if it came from the sun, or perhaps rather as if the sun were sucking it in to itself from the whole sky. It was only in the southwest that these streamers were dark; a little higher up, farther from the sun-glow, they grew white and shining, like fine, glistening silver gauze. They spread over the vault of heaven above us, and right away towards the north. They certainly resembled aurora borealis; but perhaps they might be only light vapors hovering high up in the sky and catching the sunlight? I stood long looking at them. They were singularly still, but they *were* northern lights, changing gradually in the southwest into dark cloud-streamers, and ending in the dust-cloud over the sun. Hansen saw them too, later, when it was dark. There was no doubt of

their nature. His impression was that the aurora borealis spread from the sun over the whole vault of heaven like the stripes on the inner skin of an orange.

A RACE THAT FAILED.

"Sunday, November 5th. A great race on the ice was advertised for today. The course was measured, marked off, and decorated with flags. The cook had prepared the prizes—cakes, numbered and properly graduated in size. The expectation was great; but it turned out that, from excessive training during the few last days, the whole crew were so stiff in the legs that they were not able to move. We got our prizes all the same. One man was blindfolded, and he decided who was to have each cake as it was pointed at. This just arrangement met with general approbation, and we all thought it a pleasanter way of getting the prizes than running half a mile for them.

"So it is Sunday once more. How the days drag past! I work, read, think, and dream; strum a little on the organ; go for a walk on the ice in the dark. Low on the horizon in the southwest there is the flush of the sun—a dark fierce red, as if of blood aglow with all life's smouldering longings—low and far-off, like the dreamland of youth. Higher in the sky it melts into orange, and that into green and pale blue; and then comes deep blue, star-sown, and then infinite space, where no dawn will ever break. In the north are quivering arches of faint aurora, trembling now like awakening longings, but presently, as if at the touch of a magic wand, to storm as streams of light through the dark blue of heaven—never at peace, restless as the very soul of man. I can sit and gaze and gaze, my eyes entranced by the dream-glow yonder in the west, where the moon's thin, pale, silver sickle is dipping its point into the blood; and my soul is borne beyond the glow, to the sun, so far off now—and to the home-coming! Our task accomplished, we are making our way up the fjord as fast as sail and steam can carry us. On both sides of us the homeland lies smiling in the sun; and then * * * the sufferings of a thousand days and hours melt into a moment's inexpressible joy. Ugh! that was a bitter gust—I jump up and walk on. What am I dreaming about? so far yet from the goal—hundreds and hundreds of miles between us, ice and land and ice again. And we are drifting round and round in a ring, bewildered, attaining nothing, only waiting, always waiting, for what?

"'I dreamt I lay on a grassy bank,
And the sun shone warm and clear;
I wakened on a desert isle,
And the sky was black and drear.'

"One more look at the star of home, the one that stood that evening over Cape Chelyuskin, and I creep on board, where the windmill is turning in the cold wind, and electric light is streaming out from the skylight upon the icy desolation of the Arctic night."

Other poetic descriptive passages are these:

MATCHLESS BEAUTY OF NORTHERN LIGHTS.

"I went on deck this evening in rather a gloomy frame of mind, but was nailed to the spot the moment I got outside. There is the supernatural for you—the northern lights flashing in matchless power and beauty over the sky in all the colors of the rainbow! Seldom or never have I seen the colors so brilliant. The prevailing one at first was yellow, but that gradually flickered over into green, and then a sparkling ruby-red began to show at the bottom of the rays on the under side of the arch, soon spreading over the whole arch. And now from the far-away western horizon a fiery serpent writhed itself up over the sky, shining brighter and brighter as it came. It split into three, all brilliantly glittering. Then the colors changed. The serpent to the south turned almost ruby-red, with spots of yellow; the one in the middle, yellow; and the one to the north, greenish-white. Sheaves of rays swept along the side of the serpents driven through the ether-like waves before a storm-wind. They sway backward and forward, now strong, now fainter again. The serpents reached and passed the zenith. Though I was thinly dressed and shivering with cold, I could not tear myself away till the spectacle was over, and only a faintly glowing fiery serpent near the western horizon showed where it had begun. When I came on deck later the masses of light had passed northward and spread themselves in complete arches over the northern sky. If one wants to read mystic meanings into the phenomena of nature, here, surely, is the opportunity.

THE WHOLE SKY ABLAZE.

"Later in the evening Hansen came down to give notice of what really was a remarkable appearance of aurora borealis. The deck was brightly

illuminated by it, and reflections of its light played all over the ice. The whole sky was ablaze with it, but it was brightest in the south; high up in that direction glowed waving masses of fire. Later still Hansen came again to say that now it was quite extraordinary. No words can depict the glory that met our eyes. The glowing fire-masses had divided into glistening, many-colored bands, which were writhing and twisting across the sky both in the south and north. The rays sparkled with the purest, most crystalline rainbow colors, chiefly violet-red or carmine and the clearest green. Most frequently the rays of the arch were red at the ends, and changed higher up into sparkling green, which quite at the top turned darker and went over into blue or violet before disappearing in the blue of the sky; or the rays in one and the same arch might change from clear red to clear green, coming and going as if driven by a storm. It was an endless phantasmagoria of sparkling color, surpassing anything that one can dream.

"Sometimes the spectacle reached such a climax that one's breath was taken away; one felt that now something extraordinary must happen—at the very least the sky must fall. But as one stands in breathless expectation, down the whole thing trips, as if in a few quick, light scale-runs, into bare nothingness. There is something most undramatic about such a denouement, but it is all done with such confident assurance that one cannot take it amiss; one feels one's self in the presence of a master who has the complete command of his instrument. With a single stroke of the bow he descends lightly and elegantly from the height of passion into quiet, every-day strains, only with a few more strokes to work himself up into passion again. It seems as if he were trying to mock, to tease us. When we are on the point of going below, driven by 61 degrees of frost (—34.7 C.), such magnificent tones again vibrate over the strings that we stay until noses and ears are frozen. For a finale, there is a wild display of fireworks in every tint of flame—such a conflagration that one expects every minute to have it down on the ice, because there is not room for it in the sky. But I can hold out no longer. Thinly dressed, without a proper cap and without gloves, I have no feeling left in body or limbs, and I crawl away below."

DAZZLING WHITENESS IN APRIL.

"Sunday, April 15th. So we are in the middle of April! What a ring of joy in that word, a well-spring of happiness! Visions of spring rise up in the soul at its very mention—a time when doors and windows are thrown

wide open to the spring air and sun, and the dust of winter is blown away; a time when one can no longer sit still, but must perforce go out-of-doors to inhale the perfume of wood and field and fresh-dug earth, and behold the fjord, free from ice, sparkling in the sunlight. What an inexhaustible fund of the awakening joys of nature does that word April contain! But here—here that is not to be found. True, the sun shines long and bright, but its beams fall not on forest or mountain or meadow, but only on the dazzling whiteness of the fresh-fallen snow. Scarcely does it entice one out from one's winter retreat. This is not the time of revolutions here. If they come at all, they will come much later. The days roll on uniformly and monotonously; here I sit, and feel no touch of the restless longings of the spring, and shut myself up in the snail-shell of my studies.

"Day after day I dive down into the world of the microscope, forgetful of time and surroundings. Now and then, indeed, I may make a little excursion from darkness to light—the day beams around me, and my soul opens a tiny loophole for light and courage to enter in—and then down, down into the darkness, and to work once more. Before turning in for the night I must go on deck. A little while ago the daylight would by this time have vanished, a few solitary stars would have been faintly twinkling, while the pale moon shone over the ice. But now even this has come to an end. The sun no longer sinks beneath the icy horizon; it is continual day. I gaze into the far distance, far over the barren plain of snow, a boundless, silent, and lifeless mass of ice in imperceptible motion. No sound can be heard save the faint murmur of the air through the rigging, or perhaps far away the low rumble of packing ice. In the midst of this empty waste of white there is but one little dark spot, and that is the Fram.

"But beneath this crust, hundreds of fathoms down, there teems a world of checkered life in all its changing forms, a world of the same composition as ours, with the same instincts, the same sorrows, and also, no doubt, the same joys; everywhere the same struggle for existence. So it ever is. If we penetrate within even the hardest shell we come upon the pulsations of life, however thick the crust may be.

THE HARMONIES OF NATURE.

"I seem to be sitting here in solitude listening to the music of one of Nature's mighty harp-strings. Her grand symphonies peal forth through the endless ages of the universe, now in the tumultuous whirl of busy life,

now in the stiffening coldness of death, as in Chopin's Funeral March; and we—we are the minute, invisible vibrations of the strings in this mighty music of the universe, ever changing, yet ever the same. Its notes are worlds; one vibrates for a longer, another for a shorter period, and all in turn give way to new ones. . . .

"The world that shall be! . . . Again and again this thought comes back to my mind. I gaze far on through the ages. . . .

"Slowly and imperceptibly the heat of the sun declines, and the temperature of the earth sinks by equally slow degrees. Thousands, hundreds of thousands, millions of years pass away, glacial epochs come and go, but the heat still grows ever less; little by little these drifting masses of ice extend far and wide, ever toward more southern shores, and no one notices it; but at last all the seas of the earth become one unbroken mass of ice. Life has vanished from its surface, and is to be found in the ocean depths alone.

"But the temperature continues to fall, the ice grows thicker and ever thicker; life's domain vanishes. Millions of years roll on, and the ice reaches the bottom. The last trace of life has disappeared; the earth is covered with snow. All that we lived for is no longer; the fruit of all our toil and sufferings has been blotted out millions and millions of years ago, buried beneath a pall of snow. A stiffened, lifeless mass of ice, this earth rolls on in her path through eternity. Like a faintly growing disk the sun crosses the sky; the moon shines no more, and is scarcely visible. Yet, still, perhaps, the northern lights flicker over the desert, icy plain, and still the stars twinkle in silence, peacefully as of yore. Some have burnt out, but new ones usurp their place; and round them revolve new spheres, teeming with new life, new sufferings, without any aim. Such is the infinite cycle of eternity; such are nature's everlasting rhythms.

ENDLESS, LONELY WHITE PLAINS.

"Monday, May 28th. Ugh! I am tired of these endless, white plains—cannot even be bothered snow-shoeing over them, not to mention that the lanes stop one on every hand. Day and night I pace up and down the deck, along the ice by the ship's sides, revolving the most elaborate scientific problems. For the past few days it is especially the shifting of the Pole that has fascinated me. I am beset by the idea that the tidal wave, along with the unequal distribution of land and sea, must have a disturbing effect on the situation of the earth's axis. When such an idea gets into one's head, it is

no easy matter to get it out again. After pondering over it for several days, I have finally discovered that the influence of the moon on the sea must be sufficient to cause a shifting of the Pole to the extent of one minute in 800,000 years. In order to account for the European Glacial Age, which was my main object, I must shift the Pole at least ten or twenty degrees. This leaves an uncomfortably wide interval of time since that period, and shows that the human race must have attained a respectable age. Of course, it is all nonsense. But while I am indefatigably tramping the deck in a brown study, imagining myself no end of a great thinker, I suddenly discover that my thoughts are at home, where all is summer and loveliness, and those I have left are busy building castles in the air for the day when I shall return. Yes, yes. I spend rather too much time on this sort of thing; but the drift goes as slowly as ever, and the wind, the all-powerful wind, is still the same. The first thing my eyes look for when I set foot on deck in the morning is the weather-cock on the mizzen-top, to see how the wind lies; thither they are forever straying during the whole day, and there again they rest the last thing before I turn in. But it ever points in the same direction, west and southwest, and we drift now quicker, now more slowly westward, and only a little to the north. I have no doubt now about the success of the expedition, and my miscalculation was not so great, after all; but I scarcely think we shall drift higher than 85 degrees, even if we do that. It will depend on how far Franz Josef Land extends to the north. In that case it will be hard to give up reaching the Pole; it is in reality a mere matter of vanity, merely child's play, in comparison with what we are doing and hoping to do; and yet I must confess that I am foolish enough to want to take in the Pole while I am about it, and shall probably have a try at it if we get into its neighborhood within any reasonable time.

FOGS AND HOAR-FROST.

"This is a mild May; the temperature has been about zero several times of late, and one can walk up and down and almost imagine one's self at home. There is seldom more than a few degrees of cold; but the summer fogs are beginning, with occasional hoar-frost. As a rule, however, the sky, with its light, fleeting clouds, is almost like a spring sky in the south.

"We notice, too, that it has become milder on board; we no longer need to light a fire in the stove to make ourselves warm and cozy; though, indeed, we have never indulged in much luxury in this respect. In the store-room

the rime frost and ice that had settled on the ceiling and walls are beginning to melt; and in the compartments astern of the saloon, and in the hold, we have been obliged to set about a grand cleaning-up, scraping off and sweeping away the ice and rime, to save our provisions from taking harm, through the damp penetrating the wrappings and rusting holes in the tin cases. We have, moreover, for a long time kept the hatchways in the hold open, so that there has been a thorough draught through it, and a good deal of the rime has evaporated. It is remarkable how little damp we have on board. No doubt this is due to the Fram's solid construction, and to the deck over the hold being paneled on the under side. I am getting fonder and fonder of this ship

MYSTERY OF THE FROZEN NORTH.

"Sunday, November 11th. I am pursuing my studies as usual day after day; and they lure me, too, deeper and deeper into the insoluble mystery that lies behind all these inquiries. Nay! why keep revolving in this fruitless circuit of thought? Better go out into the winter night. The moon is up, great and yellow and placid; the stars are twinkling overhead through the drifting snow-dust. . . . Why not rock yourself into a winter night's dream filled with memories of summer?

"Ugh, no! The wind is howling too shrilly over the barren ice-plains; there are 33 degrees of cold, and summer, with its flowers, is far, far away. I would give a year of my life to hold them in my embrace; they loom so far off in the distance, as if I should never come back to them.

"But the northern lights, with their eternally shifting loveliness, flame over the heavens each day and each night. Look at them; drink oblivion and drink hope from them; they are even as the aspiring soul of man. Restless as it, they will wreathe the whole vault of heaven with their glittering, fleeting light, surpassing all else in their wild loveliness, fairer than even the blush of dawn; but, whirling idly through empty space, they bear no message of a coming day. The sailor steers his course by a star. Could you but concentrate yourselves, you too, O northern lights, might lend your aid to guide the wildered wanderer! But dance on, and let me enjoy you; stretch a bridge across the gulf between the present and the time to come, and let me dream far, far ahead into the future.

"O thou mysterious radiance! what art thou, and whence comest thou? Yet why ask? Is it not enough to admire thy beauty and pause there?

Can we at best get beyond the outward show of things? What would it profit even if we could say that it is an electric discharge or currents of electricity through the upper regions of the air, and were able to describe in minutest detail how it all came to be? It would be mere words. We know no more what an electric current really is than what the aurora borealis is. Happy is the child. . . . We, with all our views and theories, are not in the last analysis a hair's-breadth nearer the truth than it.

ROAR OF PACKING ICE.

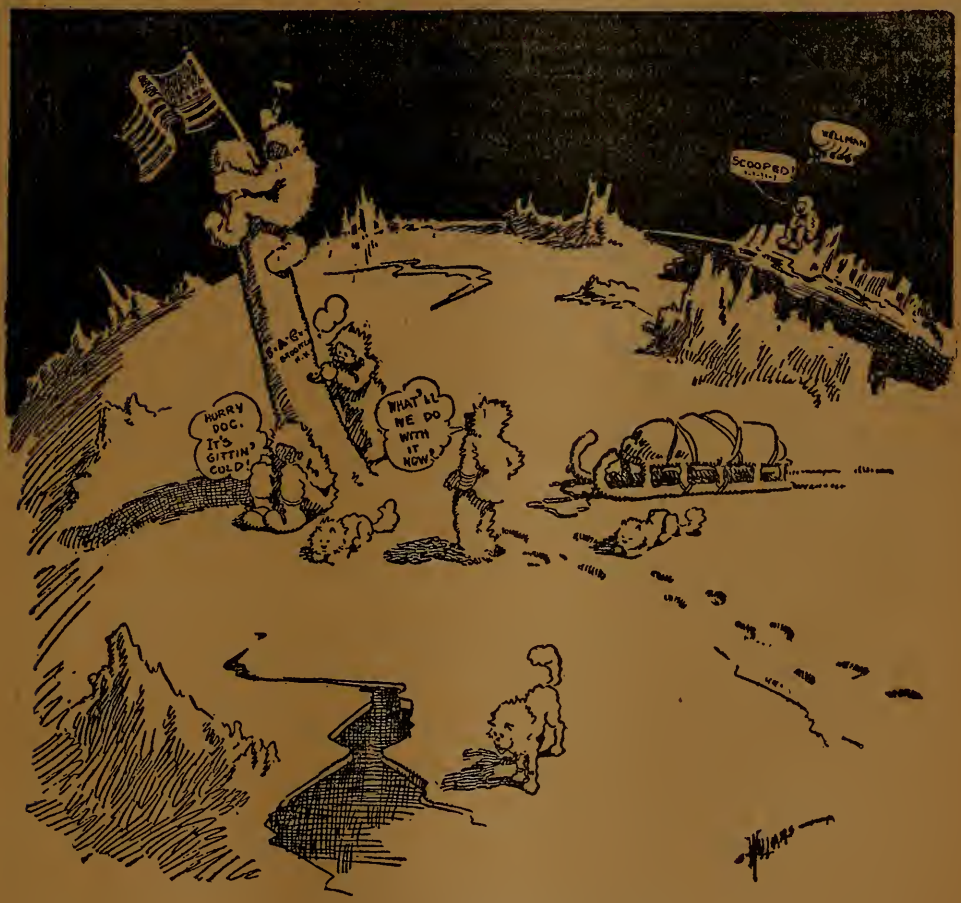
"Tuesday, November 13th. Thermometer —38 degrees C. (—36.4 degrees Fahr.). The ice is packing in several quarters during the day, and the roar is pretty loud, now that the ice has become colder. It can be heard from afar—a strange roar, which would sound uncanny to any one who did not know what it was.

"A delightful snow-shoe run in the light of the full moon. Is life a vale of tears? Is it such a deplorable fate to dash off like the wind, with all the dogs skipping around one, over the boundless expanse of ice, through a night like this, in the fresh, crackling frost, while the snow-shoes glide over the smooth surface, so that you scarcely know you are touching the earth, and the stars hang high in the blue vault above? This is more, indeed, than one has any right to expect of life; it is a fairy tale from another world, from a life to come.

"And then to return home to one's cozy study-cabin, kindle the stove, light the lamp, fill a pipe, stretch one's self on the sofa, and send dreams out into the world with the curling clouds of smoke—is that a dire infliction? Thus I catch myself sitting staring at the fire for hours together, dreaming myself away—a useful way of employing the time. But at least it makes it slip unnoticed by, until the dreams are swept away in an ice-blast of reality, and I sit here in the midst of desolation, and nervously set to work again.

"Wednesday, November 14th. How marvelous are those snow-shoe runs through this silent nature! The ice-fields stretch all around, bathed in the silver moonlight; here and there dark cold shadows project from the hummocks, whose sides faintly reflect the twilight. Far, far out a dark line marks the horizon, formed by the packed-up ice, over it a shimmer of silvery vapor, and above all the boundless deep-blue, starry sky, where the full moon sails through the ether. But in the south is a faint glimmer of day low down of a dark, glowing red hue, and higher up a clear yellow and pale-green

arch, that loses itself in the blue above. The whole melts into a pure harmony, one and indescribable. At times one longs to be able to translate such scenes into music. What mighty chords one would require to interpret them!



OLD GLORY NAILED TO THE POLE.

"Silent, oh, so silent! You can hear the vibrations of your own nerves. I seem as if I were gliding over and over these plains into infinite space. Is this not an image of what is to come? Eternity and peace are here. Nirvana must be cold and bright as such an eternal star-night. What are all our research and understanding in the midst of this infinity?"

CHAPTER XXXIX.

DR. NANSEN AS A MIGHTY NIMROD.

Some of the most graphic stories of hunting in the Arctic are from Dr. Nansen's pen. He himself was the best shot and the most tireless game-stalker of those on the Fram; and he could write about it afterward with the touch of an artist.

Describing the pursuit and bagging of some reindeer, he writes:

"On Sunday, August 20th, we had, for us, uncommonly fine weather—blue sea, brilliant sunshine, and light wind, still from the northeast. In the afternoon we ran into the Kjellman Islands. These we could recognize from their position on Nordenskiold's map, but south of them we found many Islands, like rocks that have been ground smooth by the glaciers of the Ice unknown ones. They all had smoothly rounded forms, these Kjellman Age. The Fram anchored on the north side of the largest of them, and while the boiler was being refitted, some of us went ashore in the evening for some shooting. We had not left the ship when the mate, from the crow's nest, caught sight of reindeer. At once we were all agog; every one wanted to go ashore, and the mate was quite beside himself with the hunter's fever, his eyes as big as saucers, and his hands trembling as though he were drunk. Not until we were in the boat had we time to look seriously for the mate's reindeer. We looked in vain—not a living thing was to be seen in any direction. Yes—when we were close inshore we at last described a large flock of geese waddling upward from the beach. We were base enough to let a conjecture escape us that these were the mate's reindeer—a suspicion which he at first rejected with contempt. Gradually, however, his confidence oozed away. But it is possible to do an injustice even to a mate. The first thing I saw when I sprang ashore was old reindeer tracks. The mate had now the laugh on his side, ran from track to track, and swore that it was the reindeer he had seen.

GETTING TO LEEWARD OF THE DEER.

"When we got up on to the first height we saw several reindeer on flat ground to the south of us; but, the wind being from the north, we had to

go back and make our way south along the shore till we got to leeward of them. The only one who did not approve of this plan was the mate, who was in a state of feverish eagerness to rush straight at some reindeer he thought he had seen to the east, which, of course, was an absolutely certain way to clear the field of every one of them. He asked and received permission to remain behind with Hansen, who was to take a magnetic observation; but had to promise not to move till he got the order.

"On the way along the shore we passed one great flock of geese after another; they stretched their necks and waddled aside a little until we were quite near, and only then took flight; but we had no time to waste on such small game. A little farther on we caught sight of one or two reindeer we had not noticed before. We could easily have stalked them, but were afraid of getting to windward of the others, which were farther south. At last we got to leeward of these latter also, but they were grazing on flat ground, and it was anything but easy to stalk them—not a hillock, not a stone to hide behind. The only thing was to form a long line, advance as best we could, and, if possible, outflank them. In the meantime we had caught sight of another herd of reindeer farther to the north, but suddenly, to our astonishment, saw them tear off across the plain eastward, in all probability startled by the mate, who had not been able to keep quiet any longer.

THE SEA, QUIET AND BEAUTIFUL.

"A little to the north of the reindeer nearest us there was a hollow, opening from the shore, from it seemed that it might be possible to get a shot at them. I went back to try this, while the others kept their places in the line. As I went down again towards the shore I had the sea before me, quiet and beautiful. The sun had gone down behind it not long before, and the sky was glowing in the clear, light night. I had to stand still for a minute. In the midst of all this beauty, man was doing the work of a beast of prey! At this moment I saw to the north a dark speck move down the height where the mate and Hansen ought to be. It divided into two, and the one moved east, just to the windward of the animals I was to stalk. They would get the scent immediately and be off. There was nothing for it but to hurry on, while I rained anything but good wishes on these fellows' heads. The gully was not so deep as I had expected. Its sides were just high enough to hide me when I crept on all fours. In the middle were large stones and clayey gravel, with a little runnel soaking through them.

The reindeer were still grazing quietly, only now and then raising their heads to look around. My "cover" got lower and lower, and to the north I heard the mate. He would presently succeed in setting off my game. It was imperative to get on quickly, but there was no longer cover enough for me to advance on hands and knees. My only chance was to wriggle forward like a snake on my stomach. But in this soft clay—in the bed of the stream? Yes—meat is too precious on board, and the beast of prey is too strong in a man. My clothes must be sacrificed; on I crept on my stomach through the mud. But soon there was hardly cover enough even for this. I squeezed myself flat among the stones and ploughed forward like a drain-cutting machine. And I did make way, if not quickly and comfortably, still surely.

"All this time the sky was turning darker and darker red behind me, and it was getting more and more difficult to use the sights of my gun, not to mention the trouble I had in keeping the clay from them and from the muzzle. The reindeer still grazed quietly on. When they raised their heads to look round I had to lie as quiet as a mouse, feeling the water trickling gently under my stomach; when they began to nibble the moss again, off I went through the mud. Presently I made the disagreeable discovery that they were moving away from me about as fast as I could move forward, and I had to redouble my exertions. But the darkness was getting worse and worse, and I had the mate to the north of me, and presently he would start them off. The outlook was anything but bright either morally or physically. The hollow was getting shallower and shallower, so that I was hardly covered at all. I squeezed myself still deeper into the mud. A turn in the ground helped me forward to the next little height; and now they were right in front of me, within what I should have called easy range if it had been daylight. I tried to take aim, but could not see the bead on my gun.

THE PREY MOVE ON AHEAD.

"Man's fate is sometimes hard to bear. My clothes were dripping with wet clay, and after what seemed to me most meritorious exertions, here I was at the goal, unable to take advantage of my position. But now the reindeer moved down into a small depression. I crept forward a little way farther as quickly as I could. I was in a splendid position, so far as I could tell in the dark, but I could not see the bead any better than before. It was impossible to get nearer, for there was only a smooth slope between us.

There was no sense in thinking of waiting for light to shoot by. It was not midnight, and I had that terrible mate to the north of me; besides, the wind was not to be trusted. I held the rifle up against the sky to see the bead clearly, and then lowered it on the reindeer. I did this once, twice, thrice. The bead was still far from clear, but, all the same, I thought I might hit, and pulled the trigger. The two deer gave a sudden start, looked round in astonishment, and bolted off a little way south. There they stood still again, and at this moment were joined by a third deer, which had been standing rather farther north. I fired off all the cartridges in the magazine, and all to the same good purpose. The creatures started and moved off a little at each shot and then trotted farther south. Presently they made another halt, to take a long careful look at me; and I dashed off westward as hard as I could run, to turn them. Now they were off straight in the direction where some of my comrades ought to be. I expected every moment to hear shots and see one or two of the animals fall; but away they ambled southward, quite unchecked. At last, far to the south, crack went a rifle. I could see by the smoke that it was at too low a range; so in high dudgeon I shouldered my rifle and lounged in the direction of the shot. It was pleasant to see such a good result for all one's trouble.

"No one was to be seen anywhere. At length I met Sverdrup; it was he who had fired. Soon Blessing joined us, but all the others had long since left their posts. While Blessing went back to the boat and his botanizing box, Sverdrup and I went on to try our luck once more. A little farther south we came to a valley stretching right across the island. On the farther side of it we saw a man standing on a hillock, and not far from him a herd of five or six reindeer. As it never occurred to us to doubt that the man was in the act of stalking these, we avoided going in that direction, and soon he and his reindeer disappeared to the west. I heard afterwards that he had never seen the deer. As it was evident that when the reindeer to the south of us were startled they would have to come back across this valley, and as the island at this part was so narrow that we commanded the whole of it, we determined to take up our posts here and wait. We accordingly got in the lee of some great boulders, out of the wind. In front of Sverdrup was a large flock of geese, near the mouth of the stream, close down by the shore. They kept up an incessant gabble, and the temptation to have a shot at them was very great; but, considering the reindeer, we thought it best to leave them in peace. They gabbled and waddled away down through the mud and soon took wing.

WAITING FOR THE QUARRY.

"The time seemed long. At first we listened with all our ears—the reindeer must come very soon—and our eyes wandered incessantly backward and forward along the slope on the other side of the valley. But no reindeer came, and soon we were having a struggle to keep our eyes open and our heads up—we had not had much sleep the last few days. They *must* be coming! We shook ourselves awake, and gave another look along the bank, till again the eyes softly closed and the heads began to nod, while the chill wind blew through our wet clothes, and I shivered with cold. This sort of thing went on for an hour or two, until the sport began to pall on me, and I scrambled from my shelter along towards Sverdrup, who was enjoying it about as much as I was. We climbed the slope on the other side of the valley, and were hardly at the top before we saw the horns of six splendid reindeer on a height in front of us. They were restless, scenting westward, trotting round in a circle, and then sniffing again. They could not have noticed us as yet, as the wind was blowing at right angles to the line between them and us. We stood a long time watching their maneuvers, and waiting their choice of a direction, but they had apparently great difficulty in making it. At last off they swung south and east, and off we went southeast as hard as we could go, to get across their course before they got scent of us. Sverdrup had got well ahead, and I saw him rushing across a flat piece of ground; presently he would be at the right place to meet them. I stopped, to be in readiness to cut them off on the other side if they should face about and make off northward again. There were six splendid animals, a big buck in front. They were heading straight for Sverdrup, who was now crouching down on the slope. I expected every moment to see the foremost fall. A shot rang out! Round wheeled the whole flock like lightning, and back they came at a gallop. It was my turn now to run with all my might, and off I went over the stones, down towards the valley we had come from. I only stopped once or twice to take breath, and to make sure the animals were coming in the direction I had reckoned on—then off again. We were getting near each other now; they were coming on just where I had calculated; the thing now was to be in time for them. I made my long legs go their fastest over the boulders, and took leaps from stone to stone that would have surprised myself at a more sober moment. More than once my foot slipped, and I went down head first among the boulders, gun and all. But the wild beast in me had the upper hand now. The passion of the chase vibrated through every fibre of my body.

BULLETS WHISTLE THROUGH AIR.

"We reached the slant of the valley almost at the same time—a leap or two to get up on some big boulders, and the moment had come—I *must* shoot, though the shot was a long one. When the smoke cleared away I saw the big buck trailing a broken hind leg. When their leader stopped, the whole flock turned and ran in a ring round the poor animal. They could not understand what was happening, and strayed about wildly with the balls whistling round them. Then off they went down the side of the valley again, leaving another of their number behind with a broken leg. I tore after them, across the valley and up on the other side, in the hope of getting another shot, but gave that up and turned back to make sure of the two wounded ones. At the bottom of the valley stood one of the victims awaiting its fate. It looked imploringly at me, and then, just as I was going forward to shoot it, made off much quicker than I could have thought possible for an animal on three legs to go. Sure of my shot, of course I missed; and now began a chase, which ended in the poor beast, blocked in every other direction, rushing down towards the sea and wading into a small lagoon on the shore, whence I feared it might get right out into the sea. At last it got its quietus there in the water. The other one was not far off, and a ball soon put an end to its sufferings also. As I was proceeding to rip it up, Henriksen and Johansen appeared; they had just shot a bear a little farther south."

Hunting the mighty walrus is described by Dr. Nansen thus:

"Thursday, September 12th. Henriksen awoke me this morning at 6 with the information that there were several walruses lying on a floe quite close to us. 'By Jove!' Up I jumped and had my clothes on in a trice. It was a lovely morning—fine, still weather; the walruses' guffaw sounded over to us along the clear ice surface. They were lying crowded together on a floe a little to landward from us, blue mountains glittering behind them in the sun. At last the harpoons were sharpened, guns and cartridges ready, and Henriksen, Juell, and I set off. There seemed to be a slight breeze from the south, so we rowed to the north side of the floe, to get to leeward of the animals. From time to time their sentry raised his head, but apparently did not see us. We advanced slowly, and soon we were so near that we had to row very cautiously. Juell kept us going, while Henriksen was ready in the bow with a harpoon, and I behind him with a gun. The moment the sentry raised his head the oars stopped, and we stood motionless; when he sunk it again, a few more strokes brought us nearer.

ENORMOUS MASSES OF FLESH.

"Body to body they lay close—packed on a small floe, old and young ones mixed. Enormous masses of flesh they were! Now and again one of the ladies fanned herself by moving one of her flappers backward and forward over her body; then she lay quiet again on her back or side. 'Good gracious! what a lot of meat!' said Juell, who was cook. More and more cautiously we drew near. While I sat ready with the gun, Henriksen took a good grip of the harpoon shaft, and as the boat touched the floe he rose, and off flew the harpoon. But it struck too high, glanced off the tough hide, and skipped over the backs of the animals. Now there was a pretty to do! Ten or twelve great weird faces glared upon us at once; the colossal creatures twisted themselves round with incredible celerity, and came waddling with lifted heads and hollow bellowings to the edge of the ice where we lay. It was undeniably an imposing sight; but I laid my gun to my shoulder and fired at one of the biggest heads. The animal staggered, and then fell head foremost into the water. Now a ball into another head; this creature fell too, but was able to fling itself into the sea. And now the whole herd dashed in, and we as well as they were hidden in spray. It had all happened in a few seconds. But up they came again immediately round the boat, the one head bigger and uglier than the other, their young ones close beside them. They stood up in the water, bellowed and roared till the air trembled, threw themselves forward towards us, then rose up again, and new bellowings filled the air. Then they rolled over and disappeared with a splash, then bobbed up again. The water foamed and boiled for yards around—the ice-world that had been so still before seemed in a moment to have been transformed into a raging bedlam. Any moment we might expect to have a walrus tusk of two through the boat, or to be heaved up and capsized. Something of this kind was the very least that could happen after such a terrible commotion. But the hurly-burly went on and nothing came of it. I again picked out my victims. They went on bellowing and grunting like the others, but with blood streaming from their mouths and noses. Another ball, and one tumbled over and floated on the water; now a ball to the second, and it did the same. Henriksen was ready with the harpoons, and secured them both. One more was shot; but we had no more harpoons, and had to strike a seal-hook into it to hold it up. The hook slipped, however, and the animal sank before we could save it. While we were towing our booty to an ice-floe we were still, for part of the time at least, surrounded by walruses; but there was no use

in shooting any more, for we had no means of carrying them off. The Fram presently came up and took our two on board, and we were soon going ahead along the coast. We saw many walruses in this part. We shot two others in the afternoon, and could have got many more if we had had time to spare. It was in this same neighborhood that Nordenskiold also saw one or two small herds."

HUNTING THE POLAR BEAR.

Bear were plentiful in most of the region through which the Fram passed. One experience with the great white species of Bruin is thus described in "Farthest North."

"As Sverdrup, Juell, and I were sitting in the chart-room in the afternoon, splicing rope for the sounding-line, Peter rushed in shouting, 'A bear! a bear!' I snatched up my rifle and tore out. 'Where is it?' 'There, near the tent, on the starboard side; it came right up to it and had almost got hold of them!'

"And there it was, big and yellow, snuffing away at the tent gear. Hansen, Blessing, and Johansen were running at the top of their speed towards the ship. Onto the ice I jumped, and off I went, broke through, stumbled, fell and up again. The bear in the meantime had done sniffing, and had probably determined that an iron spade, an ice-staff, an axe, some tent-pegs, and a canvas tent were too indigestible food even for a bear's stomach. Anyhow, it was following with mighty strides in the track of the fugitives. It caught sight of me and stopped, astonished, as if it were thinking, 'What sort of insect can *that* be?' I went on to within easy range; it stood still, looking hard at me. At last it turned its head a little, and I gave it a ball in the neck. Without moving a limb, it sank slowly to the ice. I now let loose some of the dogs to accustom them to this sort of sport, but they showed a lamentable want of interest in it; and 'Kvik,' on whom all our hope in the matter of bear-hunting rested, bristled up and approached the dead animal very slowly and carefully, with her tail between her legs—a sorry spectacle.

"I must now give the story of the others who made the bear's acquaintance first. Hansen had today begun to set up his observatory tent a little ahead of the ship, on the starboard bow. In the afternoon he got Blessing and Johansen to help him. While they were hard at work they caught sight of the bear not far from them, just off the bow of the Fram.

" 'Hush! keep quiet, in case we frighten him,' says Hansen.

" 'Yes, yes!' And they crouch together and look at him.

"'I think I'd better try to slip on board and announce him,' says Blessing.

"'I think you should,' says Hansen.

"And off steals Blessing on tiptoe, so as not to frighten the bear. By this time Bruin has seen and scented them, and comes jogging along, following his nose, towards them.

BEAR CHASES A HUNTER.

"Hansen now began to get over his fear of startling him. The bear caught sight of Blessing slinking off to the ship and set after him. Blessing also was now much less concerned than he had been as to the bear's nerves. He stopped, uncertain what to do; but a moment's reflection brought him to the conclusion that it was pleasanter to be three than one just then, and he went back to the others faster than he had gone from them. The bear followed at a good rate. Hansen did not like the look of things, and thought the time had come to try a dodge he had seen recommended in a book. He raised himself to his full height, flung his arms about, and yelled with all the power of his lungs, ably assisted by the others. But the bear came on quite undisturbed. The situation was becoming critical. Each snatched up his weapon—Hansen an ice-staff, Johansen an axe, and Blessing nothing. They screamed with all their strength, 'Bear! bear!' and set off for the ship as hard as they could tear. But the bear held on his steady course to the tent, and examined everything there before (as we have seen) he went after them.

"It was a lean he-bear. The only thing that was found in its stomach when it was opened was a piece of paper, with the names 'Lutkin and Mohn.' This was the wrapping paper of a 'ski' light, and had been left by one of us somewhere on the ice. After this day some of the members of the expedition would hardly leave the ship without being armed to the teeth."

CHAPTER XL.

DR. HAYES' TERRIBLE BOAT TRIP.

After contemplating the comparative comfort and pleasure experienced by Nansen and his men, the reader is again directed to the grim horrors of Arctic travel, which after all are the characteristics features, modern methods notwithstanding. For peril and the exhibition of fortitude, no history surpasses that of Dr. Kane, whose expedition was partly described in an earlier chapter One of the most striking features of that expedition was a boat trip undertaken by a party under Dr. Isaac Hayes, surgeon of the Advance, Kane's ship. The boat journey was for the purpose of getting aid for the men on board the Advance, which was fast in the ice in the region of latitude 78.

The boat journey began in August, 1854, on a small craft called the Hope, on which a sail had been rigged. The little vessel made good progress after rounding Cape Hatherton, near Lyttleton Island, and the crew were in fine spirits, "when," says Dr. Hayes, "the look-out cried, 'ice ahead!' There it was, sure enough, about a mile before us—a long, white line, against which the surf was breaking.

"We ran down within a quarter of a mile of it, hoping all the time that we should find a lead; but no opening could anywhere be seen. The pack was jammed tight together, and against the southern shore of the bay; and stretching off to the southwest, it seemed to block up the channel between Lyttleton Island and the main land.

"The course of the boat was changed to the west, and, although the wind was increasing, we determined to run outside the island and endeavor to reach the cove from the south; but here, again, we were headed off; a tongue of the pack stretched up to the north as far as we could see. To haul close on the wind and run up the edge of the ice was out of the question. With a less heavily laden boat this could easily have been accomplished; but already we were shipping much water, with the wind on the quarter. Two points more around must swamp us. A sea breaking over the gunwale convinced us of the danger of the attempt, and again the boat was headed south.

"It became now evident that we were in great jeopardy. We had run down into a bight, with a lee-shore to the east, and ice to the south and west. We were in the bend of a great horseshoe.

"There was no time to get out the oars and pull up to windward; the boat could not have lived long enough to get her head around to the waves. The cargo was piled upon the thwarts, and a quarter of an hour would scarcely have sufficed to clear them. Something must be done and that quickly. The wind increased in violence, the waves rolled higher and higher. We could only run down upon the ice and trust to luck. Choosing a point to the southwest, where the pack looked weakest, we brailed up the mainsail, took a hasty reef in the foresail, hauled in the jib, and ran for it. John took the steering oar, Petersen conned the boat from the forecastle, Stephenson held the sheet, Bonsall stood by the brail of the foresail, and the rest of us took whatever of boat-hooks and poles we could lay hands on, to 'fend off.'

The boat bounded away.

" 'See any opening, Petersen?' 'No, sir!' An anxious five minutes followed. 'I see what looks like a lead; we must try for it.' 'Give the word, Petersen.' On flew the boat. 'Let her fall off a little—off!—Ease off the sheet—so—steady!—A little more off—so!—Steady there—steady, as she goes!' Our skilful pilot was running us through a narrow lead which terminated in a little bight, where the water was, fortunately smooth. We were beginning to hope that it would carry us through the pack, when he cried out, 'It's a blind lead!' 'Tight everywhere?' 'I see no opening!' 'There's a crack to windward.' 'Can't make it—Let go the sheet—brail up—fend off!' Thump, crash, push. The stem struck fair, and the force of the blow was broken by the poles. In an instant all hands sprang out upon the floe. The boat did not appear to have been seriously damaged."

The boat was hauled upon the floe and the party prepared for a terrible night. They determined, in the face of storm and cold, to go to Lyttleton Island, and they did reach it, only to suffer more tortures. The temperature was 22 below.

"The water," says Dr. Hayes, "was freezing upon our clothes. We must either land on the island, or run before the wind down under Cape Ohlsen, five miles south. This last would carry us too far from our comrades of the Hope, and we determined to land on the island if possible. Our metallic boat would stand a good deal of thumping. There were no breakers; but the swell, which came in from the west, made the sea anything but smooth. With a wooden boat it would have been dangerous to approach the rocks.

"The shore was steep, almost perpendicular; and it was some time before we found a place which offered the least chance for executing our intention. At length we discovered a little cove, or rather a cleft in the rock, about twenty feet in width and twice as deep. The rocks to the right and behind were vertical; but the cleft ran off to the left, and there the rock sloped gradually upward. If we could strike this inclined plane, by a fortunate turn of the boat after entering, we should be landed in safety. The boat was headed square for the opening, the men gave way on their oars, and we rode in on the top of a swell which, as it retreated, left us high and dry. Next moment all hands sprang out, and, seizing the boat by the gunwale, hauled her out of danger.

"As we came across the ice, John had discovered a wounded duck sitting behind a hummock, and secured her with an oar. A fire was kindled in a crevice in the rock; the saucepan was half filled with sea-water, and the four quarters of the unfortunate eider were soon boiling in it. The head was knocked out of the bread-barrel, and eight biscuits were added to the contents of the pot.

"We were too cold and too nearly famished to wait with much patience, and the stew was speedily pronounced *done*. Plates and spoons we had none, so each one handled his share of the duck, and then we took turns with the lid for the soup.

"This hot meal warmed us up a little, but with it vanished our stock of comforts. With a cup of coffee, or even tea, we should have made out very well.

"There was a gloomy prospect for the night. Nowhere could we find protection against the wind, which not only swept in from the sea, but came furiously down upon us through the rocky gorges. We had not as much as a blanket to cover us, and the cold gusts blew most cruelly through our water-soaked cloth coats and canvas pantaloons. We clambered about in the darkness along the rocky ledge, under a great black wall, hunting in vain for a lea; but no sooner had we found a place which seemed to offer us protection, than the wind shifted. Indeed, it seemed to blow, in one and the same minute, from every quarter of the heavens, north, south, east, and west; and when it could not get at us from either of these directions, it rolled down over the cliffs and fell upon us like an avalanche. We returned to the place where we had landed, and erected an extempore tent. One end of an oar was thrust into a crack in the rock, the other end was supported upon the barrel.

Over this was spread the sail. After securing the corners with heavy stones we crawled in, but we thus obtained only a sorry protection. The wind came in on every side."

Some of the men found sleep, but Dr. Hayes could not do so. He started to explore the island for a more protected spot, only to lose sight of the boat, as did a comrade who followed him. Then two others joined them. Says Dr. Hayes:

"I communicated to them my fears respecting the party. I sent Godfrey to watch seaward. Bonsall went to the north cape, and I remained in my old position. The night wore on; daylight came slowly back; the wind died away to a fresh breeze; the sea was going down; the spray leapt less wildly; yet nothing could we see of the boat.

"At length a change of tide brought a change of scene; the ice was set in motion; the pack, which had so closely hugged the land, was loosened; and it stretched its long arms out over the water to the westward. Broad leads ran through the body of it. Bonsall's quick eye first detected something dark moving upon the water. 'I see the boat,' he shouted to me,—'Where away?'—'Coming down through the in-shore lead.' There she was, with all sail set, bearing directly for the island. By eight o'clock her party brought up on the south side of our encampment. I counted them as they floated by; one, two, three, four, *five*—John was there.

"The swell was still too high to permit them to touch the rocks with their frail boat; we therefore launched the metallic boat, and following them under oars, pulled around behind Cape Ohlsen. Here was found a snug little harbor with a shingly beach. The cargo was unshipped, and the boats were hauled up at half-past eleven o'clock. The sun's slanting rays shone directly in upon us from the south; the mercury went up to 28°. Not a breath of air rippled the water. No surf beat upon the shore. What a contrast to the tumultuous scenes of yesterday! From a little stream of melted snow which trickled down the mountain side, we filled our kettles; the lamp was fired; and in an hour and a half the cook had ready for us a good pot of coffee, and a stew of the young eiders which were left from the day before; to which were added some pieces of pork, and a young burgomaster gull, which had been shot on the way from Lyttleton Island. While this substantial breakfast was being eaten, we interchanged our stories of the night's adventures.

"Our friends had had a fearful night. Bad as had been our fortune

theirs was incomparably worse. Soon after we left them, the protecting floes to the north shifted their position; and from that time until the storm subsided, they were frightfully exposed. The waves rolled in upon them, frequently breaking over the floe on which they were, while the spray flew over them continually. They wrapped the bread-bags in a piece of India-rubber cloth, and thus kept them tolerably dry; but everything else became thoroughly soaked,—clothes, buffaloes, and blankets, especially. They pitched their tent and tried to get some rest, but the water very soon drowned them out. They tried to cook some coffee, but the spray extinguished their lamp. They were thirty hours without water to drink, and during all that time they tasted nothing warm, their sole provision being cold pork and bread. Their suffering was great, and our tale sounded tamely enough after theirs.

"I questioned John why he had so recklessly exposed his life; he 'wanted to see what had become of them.' He did not see them when he started; had no certain knowledge as to where they were; he only wanted to 'look them up.' "

After this terrible experience the Hope once more put to sea, and the party was lucky enough to find another boat, called "Ironsides," deserted by Kane the year before. The party divided into two crews.

"We pulled out from under the land," says the narrator, "to catch the wind which still blew lightly from the northeast; and spreading our canvas we gave three lusty cheers for Upernavik, and stood away for Cape Alexander, which was fourteen miles distant. A watch was set in each boat. Peterson took the steering oar of the Hope, John that of the Ironsides, and the rest of the crews crawled under their blankets and buffalo robes.

"Soon after our starting, an ominous cloud was observed creeping up the northern sky. As it spread itself overhead, the wind freshened, and after fluttering through a squall, settled into a heavy blow. The white-caps multiplied behind us, and everything looked suspicious; but whatever might be our misgivings as to the fortune in store for us, out at sea in a storm, with our frail heavily laden boats, we could do nothing but hold our course, and take the risks. To run back under the land which we had just left, did not at all accord with our tastes, nor with the nature of our undertaking. Off the larboard bow lay a long line of iron-bound coast which offered no sign of a harbor. Come what might, we must keep on, and sink or swim off Cape Alexander.

"To be at sea in a snug ship with a deck under your feet, the wind roaring and the waves breaking about you, is a pleasure, and as the vessel bounds forward one scarcely feels that he is not in the most secure place in the world; but it is quite a different affair in an open boat twenty feet long.

"As we ran out from the land, we obtained a fine view of Hartstene Bay. The coast which bounds it to the north is high and precipitous, trending a little to the north of east, and terminating in a large glacier, about twelve miles east of Cape Ohlsen. The face of this glacier, dimly traceable in the distance, appeared to be about three miles in extent, sloping backward into an extensive *mer de glace*. To the south of the glacier the land trends nearly parallel with the north shore for three or four miles, when it falls off to the south, terminating in another glacier larger than the first, which, like it, sweeps back around the base of the mountains into the same glassy sea. From the southern extremity of this glacier the coast runs southwest, presenting an almost straight line of high vertical, jagged rocks, which end in the noble headland for which we were steering.

"Although closely watching the sheet, while John steered and Bonsall and Godfrey slept, I was yet at leisure to enjoy the magnificent scene which spread itself before me as we approached the cape. A parhelion stood in the sky on my right hand, presenting a perfect image of the sun above, and a faint point of light on either side. On my left lay the beforementioned line of coast, its dark front contrasting grandly with the white sheet of ice a few miles further back, which seemed to be in the act of pouring down into the sea from some great inland reservoir.

"In a little while, owing to an accident to the rudder, the boat, no longer under its control, broached to. The next wave broke amidships and filled us. The air-chambers, which had hitherto made the boat so crank, now saved us from sinking. The steersman was knocked down from his seat, and before he could regain his oar, and bring the boat into the wind, sea after sea had broken over us.

"Finding that they were not absolutely drowned, and that nothing worse could happen than a good ducking, the men returned to their posts, and in a few minutes the sail was reefed and set, and the boat righted. The increased load which she now carried sank her lower in the water, and in spite of all our efforts, there remained an unwelcome cargo; for, as fast as we bailed out one portion, another poured in. Discouraged at length by our fruitless efforts to get her free, we gave up the attempt; and being now sat-

isfied that the life-boat would not go down, we held on to the mast and gunwale to prevent the seas from washing us overboard, and in this manner drifted around the cape. Here we were met by our consort. Her crew, fearful that we had swamped, were gallantly beating up in smoother water to our assistance.

"It was dead calm under the cape. After bailing out some of the water, we took in the sails, unshipped the mast, and pulled over to Sutherland Island in search of a harbor. This little rock lies about three miles to the southeast of Cape Alexander. It was found to be precipitous on its northern and eastern sides, and unprotected to the south and west from the winds and waves which eddied around the cape. No harbor was found here, but a little farther on one was discovered.

"We were soon ashore; and as we looked out from the rocks on the foaming sea, and listened to the moaning wind as it fell over the cliffs above us, and to the breakers thundering against the coast, we had reason to be thankful that we were once again on *terra firma*. The Ironsides was hauled upon the beach and capsized, to free her of her load of water. Petersen anchored the Hope with a couple of heavy stones. Having no dry clothing to put on, we ran about until we were a little warmed and dried; and then, pitching the tent, we spread over us our water-soaked buffalo, and slept away fatigue and disappointment.

"Everything in the Ironsides was thoroughly wet. Among the articles of food were a two-barrel bag of bread and our large bag of coffee. The cargo of the Hope was as dry as when put on board at Cape Ohlsen. She had behaved admirably, and had weathered the gale quite comfortably. She shipped more water through her leaky sides than over her gunwale.

"The wind lulled a little in the night, but rose in the morning, and increased again to a gale. The storm was too heavy to allow us to put to sea. The wind had hauled around to the north, and the swell came into our harbor. The anchorage of the Hope being thus rendered insecure, she also was dragged upon the beach. Our wet cargo was spread out upon the stones to dry; and we awaited with much anxiety the breaking of the gale."

On the 6th of September they broke camp, and finally reached Northumberland Island, where from a high hill they viewed the country. Says Hayes:

"Before us, to our right, and to our left was ice, ice, ice. We could see full forty miles; and, although not able to determine positively the condition

of the water for more than twenty, yet what we saw assured us that a probably impenetrable pack lay in our way. To the southwest, towards the Carey Islands, whose tops were dimly visible, the sky indicated open water, which seemed to run in toward Saunders Island, whose long, flat, white roof, supported by a dark vertical wall, appeared above the horizon to the south. Under Cape Parry was a large open area, from which diverged several narrow leads, like the fingers of an outspread hand, toward Northumberland. One of these leads came up within four or five miles of our camp; but inside of it all was tightly closed. Below Cape Parry several small leads appeared, and much open water seemed to lie along the land.

"Although this pack was in fact the same that had baffled Dr. Kane in July and August, yet its existence here surprised me as it had him. It had never been noted before. Our track had been traversed by Baffin and Bylot in August, 1616; by Sir John Ross, between August 7th and 30th, 1818; by Capt. Inglefield, August 28th, 1852; and by Dr. Kane, in the Advance, August 7th, 1853; and by none of them had any considerable quantity of ice been seen north of Melville Bay. I was not prepared for such a rebuff at this part of our voyage.

"Could we pass it? would it open? was there any hope for us? I confess that, as these questions came in succession to my mind, I could only meet them by gloomy doubting. The ice was more firm and secure than we had anticipated finding, even in Melville Bay. All of our bright dreams of succor and safety seemed to be ending.

"I was still not wholly without hope. There were yet twenty days of September; and, although signs of winter had been about us ever since we left the brig, yet it was now much warmer here than at Rensselaer Harbor a month earlier. Altogether, September promised more of summer than of winter.

"It was with mingled feelings of hope and discouragement that I started to return."

The party, however, when the issue was put to a vote, determined on an advance. One man made a speech. Says Dr. Hayes:

"I give it as nearly as I can remember it: 'The ice can't remain long,—I'll bet it opens to-morrow. The winter is a long way off yet. If we have such luck as we have had since leaving Cape Alexander, we'll be in Upernavik in a couple of weeks. You say it is not more than six hundred miles there in a straight line. We have food for that time, and fuel for a week.

Before that's gone we'll shoot a seal.' It was a right gallant and hopeful little speech, and 'Long George' (as his messmates always called him) looked quite the hero. It reflected the spirit of the party; and it is one of the pleasantest recollections of my life that, notwithstanding nineteen days of danger and suffering, during which they had been wet, cold, and often half famished, the men who were my companions did not quail at this crisis.

"In order that the nature of our situation might be more fully understood, Mr. Sonntag brought out his charts; and after we had carefully discussed together the difficulties and dangers on every hand; the possible chances of our success, and the probable chances of our being caught in the ice; and having all arrived at a full comprehension of the uncertainties which were before us, and our facilities for availing ourselves of the temporary security which was behind us, a formal vote was then taken upon the question, 'Whether we should go back, or wait and go on with the slightest opening.'

"There was but one voice in the company—'Upernavik or nothing, then it is!' 'That's what I mean!'—'and so do I!' were the prompt responses.—The thing was settled.

Hayes' diary for a few days graphically describes the situation:

"September 11th. The ice drifts rapidly out of the sound, opening wider the leads toward Cape Parry and the southwest; but it is closing up more tightly against the southeast corner of the island. The floes have left the shore opposite our camp, and we could put to sea and make some headway toward the Carey Islands; but this is not the course we have determined upon pursuing. We could not advance more than half a mile in the direction of the main land. Godfrey has shot a fox, and he reports having seen several others among the mountains. Petersen brought down a young raven; it is not good, but we must eat it and save our pork. The sky is overcast, and the temperature has gone down to 25°. The air remains calm.

"September 13th. No change in the ice. This state of inactivity greatly affects our spirits. Every hour is precious, and it is hard to be kept thus closely imprisoned.

"It is wonderful how the fine weather holds; nothing like it was ever experienced at Rensselaer Harbor, even in midsummer. The people amuse themselves in wandering about the green, in plucking and eating cochlearia, or in lounging about the camp, smoking their pipes; sometimes relieving the monotony with a game of whist, or in sewing up the rents in their dilapidated

clothing; casting now and then wistful glances on the sea, and wondering impatiently 'when the ice will open?' Petersen shot a fox and a young burgomaster-gull; the former was secured, but the latter fell into the sea and floated away with the tide. Although the men suffer morally, they improve physically. The cochlearia has driven from their systems every trace of scurvy; and the few good meals of fresh animal food which we have eaten have built up all of us and filled out our cadaverous cheeks.

The ice opened at last, and the party put to sea, only to be caught in the ice, and to drift for hours on a floe.

"That we should feel despondent under the circumstances was, perhaps, quite natural; but now, as on other occasions, there was exhibited in the party a courage which triumphed over the distressing fortunes of the day. Stories, such as sailors alone can tell, followed the coffee, and interrupted the monotonous chattering of teeth; and Godfrey, who had a penchant for negro melodies, broke out from time to time with scraps from 'Uncle Ned,' in all its variations, 'Susannah,' and 'I'm off to Charlestown, a little while to stay.' Petersen recited some chapters from his boy-life in Copenhagen and Iceland; John gave us some insight into a 'runner's' life in San Francisco and Macao; Whipple told some horrors of the forecastle of a Liverpool packet; but Bonsall drew the chief applause, by 'Who wouldn't sell a farm and go to sea?'

"A strange mixture of men crowded the tent on that little frozen raft, in that dark stormy night of the Arctic Sea! There were a German astronomer, a Baltimore seaman, a Pennsylvania farmer, a Greenland cooper, a Hull sailor, an East River boatman, an Irish patriot, and a Philadelphia student of medicine; and it was a singular jumble of human experience and adventure which they related.

"We were near being precipitated into the water during the night. An angle of the raft on which rested one of the tent poles, split off; two of the men who lay in that corner were carried down, and their weight was almost sufficient to drag the others overboard. Fortunately the bottom and sides of the tent were fast together, or two of us at least would have gone into the sea.

"September 15th. The air cleared a little as the morning dawned; and, although it continued to snow violently, we were conscious of being near some large object, which loomed high through the thick atmosphere. Whether it was land or an iceberg we could not make out. We were soon in the boats,

and pulling towards it through the thin ice and sludge. Before its character became clear, we were within a hundred yards of a low sandy beach, covered with boulders. Two burgomaster-gulls flew overhead while we were breaking through the young ice along the shore; and they were brought down by the unerring gun of Petersen. These supplied us with food, of which we stood greatly in need.

"The boats were drawn up above the tide; and we piled the cargo together on the rocks, and covered it with one of the sails. The tent was pitched near by; and with another sail an awning was spread in front, so shelter the cook and to protect the lamp. This precaution was well timed, for it soon began to blow hard from the southwest, the wind being accompanied with hail. We brought our clothes-bags under the awning, and changed our wet garments before retiring to the tent.

"We had not tasted food for more than four and twenty hours. While we were engaged with our meal, our tent was almost blown over. Some time elapsed before everything could be made safe. An additional guy was placed on the windward side, and those at the ends were fastened to heavier stones. The awning was also tightened; and everything being thus rendered apparently secure, we once more drew our heads under cover. We could do nothing for our brave cook but give him some dry clothing, the best place in the tent, and our thanks.

"It was still snowing hard; the wind had increased to a gale, and as it went moaning above the plain, it carried up into the air great white clouds, and pelted mercilessly the side of our tent with sleet and hail. I put my head out of the door; I could not see fifty yards. The boats were nearly covered by a great drift, and our cargo was almost buried out of sight. It was not due to ourselves that we were not at sea in that fearful storm. We knew not even where we were. We came by no will of our own. There was a Providence in it.

"I was too much fatigued to make the circuit of the island; and I am, therefore, not able to add anything to the chart of Captain Inglefield, who, in the little steamer Isabella, ran up the channel in August, 1852. The cliffs above us were composed of sandstone and slate, resting on primitive rock, which was visible near our camp. About a quarter of a mile above us were discovered two well built Eskimo huts, which appeared to have been recently occupied.

"Hoping that fortune would continue to favor our effort, we retired

again to our tent, and awoke on the following morning to find that the wind had hauled around to the northeast, and that the clouds were breaking away. By one o'clock, p. m., it was quite clear. The thermometer went up to two degrees above the freezing point; the ice was giving way, and long leads were opening through it, in every direction. A narrow belt of heavy floes joined together by young ice, unfortunately lay close along the shore; otherwise we could have launched our boats at two o'clock. To break through this belt would have occupied us until night; and deeming it imprudent again to trust ourselves in the darkness to an uncertain channel we concluded to remain where we were, and to start fresh with the early morn.

"The morn broke upon us bright, clear, calm, and summer-like. The young ice, neither strong enough to bear nor frail enough to yield easily, seemed for a time likely to baffle us; but by breaking it up with our boat-hooks and poles, we finally succeeded in effecting our escape; not, however, until an hour after the sun had passed the meridian. The way appeared to be free toward the mainland, for which we pulled. After we had been under oars a couple of hours, a light breeze sprang up from east-northeast; once more our canvas was spread, and our ears were again gladdened by the music of gurgling waters as the boats rushed onward through the rippled sea.

"We struck the coast at about twenty miles above Cape Parry. Passing under the north cape of Burden Bay, we were surprised to hear human voices on the shore. That they were Eskimos we knew from the peculiar 'Huk! Huk! Huk'—their hailing cry."

CHAPTER XLI.

FURTHER EXPERIENCES OF DR. HAYES.

The adventures on the sea, in frail boats, were not the last of the troubles of Dr. Hayes and his men. Though near an Eskimo settlement, they found themselves almost without food. The Eskimos themselves were hungry. But a winter was at hand, and they must live. They started the building of a hut, to be their headquarters while they scoured the country for game.

One of the party hunted every day, "yet he always came home empty-handed, except on one occasion, when he brought in five ptarmigans, all of which he shot within a hundred yards of the camp on his return. There were several cracks in the ice not far from the shore, which were kept open by the changing tide; and in these cracks were frequently seen walrus and seal, but they were too timid to be approached. Petersen fired at them several times, but they were always beyond his range. Along the shore, to the south of our position, he built several fox-traps, which he visited daily; but hitherto no foxes had been caught.

"All this was discouraging. It seemed ominous of starvation at a very early day. Our provisions were running very low; we had only a few pounds of pork left, and of bread only a small quantity beside that in the barrel brought from the Life-boat depot, of which a small portion had been consumed. There remained a little of the meat-biscuit and a few pounds of rice and flour. Altogether we had not enough to furnish us with full rations during a single week, and we were trying to make our stock suffice for a longer period. Already we were upon the shortest daily allowance which our labors permitted. Men working during twelve or fourteen hours of the twenty-four, in a temperature not much above zero, require a large amount of food to sustain them. We were becoming thin and weak, and were constantly hungry.

"To appease the gnawing pains of hunger by at least filling up the stomach, we resorted to an expedient which I remembered of Sir John Franklin's, in his memorable expedition to the Copper-mine, in 1819. This was, to eat

the rock-lichen, (*tripe de roche*), which our party called 'stone moss.' When at its maximum growth, it is about an inch in diameter, and of the thickness of a wafer. It is black externally, but when broken the interior appears white. When boiled it makes a glutinous fluid, which is slightly nutritious. Although in some places it grows very abundantly, yet in our locality it, like the game, was scarce. Most of the rocks had none upon them; and there were very few from which we could collect as much as a quart. The difficulty of gathering it was much augmented by its crispness, and the firmness of its attachment.

"For this plant, poor though it was, we were compelled to dig. The rocks in every case were to be cleared from snow, and often our pains went unrewarded. The first time this food was tried it seemed to answer well; it at least filled the stomach, and thus kept off the horrid sensation of hunger until we got to sleep. Beside the unpleasant effects, fragments of gravel, which were mixed with the moss, tried our teeth. We picked the plants from the rock with our knives, or a piece of hoop-iron; and we could not avoid breaking off some particles of the stone.

"The hut proved somewhat of a failure when the heavy snow came in October. The morning of the 3rd there was a severe storm, and to our sorrow the hut was half filled with snow, feathery streams of which came pouring in through the cracks around the roof. These fine particles filled the air, and made everything so damp that it was with much difficulty that the fire was kindled. Leaving Godfrey engaged in this delicate operation, I took the kettle, determined to get if possible some water from the lake. The fuel which must otherwise be used for melting snow, might thus be saved for roasting coffee, the want of which was greatly felt by all of us.

"Clambering up through the hole in the roof, I turned to the right around the base of a pile of rocks, and then beat up diagonally against the gale. The drift was almost blinding, and my face grew so cold that I was frequently forced to turn my back to the wind to recover breath and warmth. It was with great difficulty that I picked a passage among the boulders and drifts; but, growing warmer as the exercise heated my blood, I at length came directly upon the lake. This was an unexpected piece of good fortune; for, as I had guessed my way, I could not have even hoped to come exactly to the right spot.

"Pieces of ice which lay scattered around the well, had formed a center for the accumulation of a large drift; and I was therefore compelled to dig

another hole. Selecting a spot which the wind had swept clear, I set diligently to work at cutting the crystal sheet with the dull chisel. This, luckily, had been placed upright by the last visitor, or I should probably not have found it. The ice was perfectly transparent, and I could see every stone and pebble on the bottom, shining very brightly, and seeming to nestle there in warmth and quiet,—strikingly in contrast with the confusion and cold which reigned above. The operation of cutting this hole was a most tedious one, and it must have occupied me at least three-quarters of an hour; but at length the iron bar plunged through; and upon withdrawing it a crystal fountain gurgled out into the frost. My kettle was soon filled, and I set out to return.

"My tracks were covered over, and again I was obliged to steer by the wind. I was getting on very well, having now the storm partially on my back; but my good fortune forsook me when I had reached about half-way. In the act of climbing over a rock, in order to shorten the distance, I missed my footing, and fell upon my face. The kettle slipped from my grasp, and, spilling its precious contents, went flying across the plain. With a philosophical resignation which I had the modesty afterwards to think quite commendable, in the circumstances, I followed the retreating pot, and, overtaking it at length where it had brought up against an elevation, I returned to the lake and refilled. This time I was more careful, and I reached the camp without further accident, except that I came upon the sea some distance above the hut; thus considerably increasing the length of my walk; and that, too, in the very teeth of the storm.

"A party of the Eskimos came upon the hut one day, together with a drove of hungry dogs.

"The dogs were fastened by their long traces; each team being tied to a separate stake. They were howling piteously. Having been exposed to all the fury of the storm, with no ability to run about, they had grown cold; and as their masters told us, having had nothing to eat during thirty-six hours, they must have been savagely hungry. One of them had already eaten his trace; but we came out, fortunately, at the proper moment to prevent an attack upon the sledges.

"Leaving the hunters to look after their teams, I returned to the hut. The blinding snow which battered my face, made me insensible to everything except the idea of getting out of it; and thinking of no danger, I was in the act of stooping to enter the doorway, when a sudden noise behind me caused

me to look around, and there, close at my heels, was the whole pack of thirteen hungry dogs, snarling, snapping, and showing their sharp teeth like a drove of ravenous wolves. It was fortunate that I had not got down upon my knees, or they would have been upon my back. In fact, so impetuous was their attack, that one of them had already sprung when I faced round. I caught him on my arm and kicked him down the hill. The others were for the moment intimidated by the suddenness of my movement, and at seeing the summary manner in which their leader had been dealt with; and they were in the act of sneaking away, when they perceived that I was powerless to do them any harm, having nothing in my hand. Again they assumed the offensive; they were all around me; an instant more and I should be torn to pieces.

"I had faced death in several shapes before, but never had I felt as then; my blood fairly curdled in my veins. Death down the red throats of a pack of wolfish dogs had something about it peculiarly unpleasant. Conscious of my weakness, they were preparing for a spring; I had not time even to halloo for help—to run would be the readiest means of bringing the wretches upon me. My eye swept round the group and caught something lying half buried in the snow, about ten feet distant. Quick as a flash I sprang, as I never sprang before or since, over the back of a huge fellow who stood before me; and the next instant I was whirling about me the lash of a long whip, cutting to right and left. The dogs retreated before my blows and the fury of my onset, and then sullenly skulked behind the rocks."

In a desperate effort to get supplies one of the party, John Petersen, offered to journey with the Eskimos to a settlement called Netlih, and bring food. Two others, John, the cook, and a Mr. Sonntag, made a similar journey in another direction.

"On the evening of the sixth of November, Mr. Sonntag and John came back to us. Their arrival was most opportune, for we had eaten every ounce of meat which was on hand when they left us. They were brought by two Eskimos, whose sledges carried a supply of food sufficient to last us for several days. They had a part of two bear's legs, several other small pieces of meat, and a bear's liver. This last the Eskimos will not eat, but we were glad enough to get it. There were, besides, some pieces of blubber, about two dozens of lumme and burgomaster-gulls, and as many dried auks. All this provision had been purchased for fifty needles and a sheath-knife,—a small price where these implements are abundant, but an exorbitant one in

the estimation of our Eskimos. These native friends were getting to be very Jews in their bargainings. Heaven knows we did not grudge the poor creatures the few paltry things of which they stand so much in need; but, with us, the case was one of life and death; and, by keeping up the price, we prevented the market from being overstocked. A needle was worth to them more than a hundred times its weight in gold. Ours had become quite notorious, and by this time every women in the tribe had at least one of them. Some of the women had nearly a dozen apiece. They were a wonderful improvement over the coarse bone instruments which they had hitherto used.

"Mr. Sonntag and John had a hard journey. The track was rough. High ridges of hummocked ice lay across the mouth of Wolstenholme Sound, and through these they were compelled to pick a tortuous passage. On their way down they were obliged to walk a large portion of the time, because partly of the roughness of the road, and partly of the fact that there four persons to one sledge. They were quartered in a double hut, one in each division of it, and were treated with great kindness and civility. They returned to us looking hale and hearty, and made our mouths fairly water with glowing descriptions of unstinted feasts. They had been living on the fat of the land,—upon bear, fox, and puppy, the best dishes in the Eskimo larder at this time of year. Yet food was scarce at Akbat, and hence they brought little."

Later Petersen and his white companion, one Godfrey, returned unexpectedly. Petersen crawled into the hut almost exhausted, and Godfrey after him.

"Their first utterance was a cry for 'water!—water!'

"I asked Petersen, 'Are you frozen?'—'No!'—'Godfrey are you?'—'No! but dreadful cold, and almost dead.' Poor fellow! he looked so.

"They were in no condition to answer questions; but they rather needed our immediate good offices. Their clothing was stiff, and in front was coated with ice. From their beards hung great lumps of it; and their hair, eyebrows, and eyelashes were white with the condensed moisture of their breath. We aided them in stripping off their frozen garments; and then rolled them up in their blankets.

"Long exposure to the intense cold, fatigue, and hunger, had benumbed their sensibilities; and with the reaction which followed came a corresponding excitement. We gave them to drink of our hot coffee, and this combined with the warmth of the hut soon revived them; but the violence of the change

produced a temporary bewilderment of mind, and the sleep which followed was troubled and restless. Their frequent starts, groans, cries, and mutterings, told of the fearful dreams of cold, starvation, thirst, and murder by which they were distressed.

"It was not until the following morning that we obtained the full particulars of their journey; but Petersen told us, while he drank his coffee, what it was necessary that we should know at once. They had walked all the way from Netlik, where an attempt had been made to murder them. The Eskimos were in pursuit, and if not watched would attack our hut.

"The idea at once suggested itself, that, with a combination of forty or fifty persons, and an effort well directed, they might surprise us; and, dashing in a body from the rocks above upon the slender roof of our hut, they might bury us beneath the ruins, and harpoon us if we should attempt to escape. We did not fear a direct attack.

"A watch was accordingly set and kept up during the night. The sentinel was armed with Bonsall's rifle, and was relieved every hour. The remainder of our fire-arms were hung upon their usual pegs, in the passage, having been previously discharged and carefully reloaded. The iron boat was drawn up in front of the hut.

"The night wore away. Mr. Petersen and Godfrey awoke, ate again, and fell back into their sleep. The sentry marched to and fro along the level plain, a few rods to the eastward of the hut; and the creak, creak of his footsteps was distinctly heard as he trod over the frozen snow. Inside the hut all was quiet, save now and then a low whisper, the heavy breathing and occasional delirious outcries of the returned travelers, and the noise made by the periodical changing of the watch. Scarcely an eye except those of Petersen and Godfrey was closed in sleep. We were all too busy with our thoughts, and too much agitated by our anxieties."

The Eskimos did not attack, though it was plain they had intended to murder Petersen. In his sleep he had heard them plotting. He heard them say, says Hayes, that "the hut was to be surprised before Mr. Sonntag and John could return from Akbat. In both cases Sip-su (one of Petersen's Eskimos) was to lead the assault, and Kalutunah was to act as his second in command.

"Sip-su was just beginning to put into execution the first part of the plan of operations, by instituting a search for Petersen's pistol, when Godfrey came to the window and hallooed to his chief, to know if he was alive. He

was satisfied, from what he had seen and heard in the other hut, that foul play was intended.

"Petersen awoke from his sham sleep, and, having exchanged words with Godfrey, made some excuse and went out. He found a crowd of men, women, and boys around his rifle. It was fortunate that he had impressed upon them the idea that it was dangerous to touch it. Seeing them assembled about the gun, he called to them to know why they were not afraid to go so near; and they all withdrew.

"Having secured his rifle, he told them that he intended to go in hunt of bears (Nannook); and drawing from his pocket a handful of balls, he remarked, as he dropped them one by one into his other haand, that each of them was sufficient to kill a bear, or a man, or any other animal. They would have persuaded him to stay; but he had already had enough of their treachery, and he resolved to walk to Booth Bay. This, although a dangerous experiment, was clearly more safe than to remain.

"Conscious that their guilty intentions were rightly interpreted, the Eskimos clustered around him, declaring, with suspicious eagerness, that they 'would not hurt him,' that 'nobody meant him any harm.'

"It was late when, with Godfrey, he started toward our party. The night was clear and calm, but the cold was terribly intense. At our hut the temperature was forty-two degrees below zero. The distance to be traveled by them would have been, by the most direct line, forty miles; but more nearly fifty by the crooked path which they must follow. Even the three days of feasting at the Eskimo settlement had not restored the physical strength of which they had been deprived by their course of life at the hut; and, reduced as they were in flesh, it seemed to them scarcely probable that they could make the exertion necessary to enable them to rejoin us.

"The Eskimos sullenly watched them from the shore as they moved off; and when they had gone about two miles, the former hitched their teams, and, leaving the settlement, were soon in full pursuit. The wild, savage cries of the men, and the sharp snarl of the dogs, sounded upon the ears of our poor comrades like a death-knell. In their previous anxieties, they had not looked forward to this new danger. The ice-plain was everywhere smooth; there was not in sight, for their encouragement, a single hummock behind which they might hope to shelter themselves.

"On came the noisy pack,—half a hundred wolfish dogs. Against such an onset, what could be done by two weak men, armed with a single rifle?

The dogs and the harpoons of their drivers must soon finish the murderous work. Petersen was, however, resolved that Sip-su or Kalutunah should pay the penalty of his treachery, if at any moment within range of the rifle."

It proved, however, that the Eskimos were not brave enough to make the assault, so Petersen and Godfrey escaped.

Later, Dr. Hayes writes:

"November 10th. Again the Eskimos appear to us more as our good angels than as our enemies. Under extraordinary temptation, and, doubtless, at the evil instigation of a bad leader, these poor savages had proposed the death of Petersen and his companion; but this day two of them, Kalutunah and another hunter, came to us, and threw at our feet a large piece of walrus-beef and a piece of liver. The latter was not yet frozen; and the animal from which it was taken had, therefore, been recently caught.

"We were talking about them, in no spirit of love, when they arrived; and, as they came up the hill, various were the expressions of opinion as to what ought to be done with them. One said that we should detain them, and hold them as hostages until their people should have performed their promises; and that their dogs should be seized, and used in the interval; but, apart from any consideration of justice, such a proceeding would scarcely have been safe. Another hinted that fourteen dogs would save us from starvation; for, if we should not succeed with them in the hunt, we could kill and eat them. Again, apart from any question how far our necessities overruled the old law of *meum* and *tuum,* it was certain that such a step, whatever its immediate advantages, would bring us ultimately into open, and probably, to our party, fatal hostility with the entire tribe. Perhaps, as the present of food seemed to indicate, we had not exhausted all of our means of negotiation; and, until driven to the last resort, we could not justifiably use the strong hand upon our neighbors' property. Great allowances were obviously to be made for the tribe, upon whom we had no claims except upon grounds of humanity too general for their uninstructed minds."

It was through these savages that Dr. Hayes and his comrades were able at last to return to the ship, for the food they furnished made new men of the party. They started back late in November.

"Our movements," says Dr. Hayes, "were like those of men returning from a long journey rather than beginning one. The insufficient food upon which we had been subsisting during the last few days, had so much reduced us that, at the end of the first hour, many of us were more fatigued than we

had been, on former occasions of similar labor, at the end of a day. Our progress, slow at the beginning, became slower every moment. The exercise did not warm us as it had done when we were in more vigorous health; and we grew chilly in spite of our exertions. Face, hands, and feet seemed to be pierced by a multitude of torturing needles. The frost penetrated our bodies as if they had been inanimate; and the blood which coursed through our veins felt almost as if it were half congealed. Against the intense cold our imperfect clothing offered a very inadequate shield. The thermometer, when we left the hut, indicated forty-four degrees below zero. The air was fortunately quite calm; and the moon, shining with an intensity which it can exhibit only in an Arctic atmosphere, gave us sufficient light. The snow-crowned mountains of Northumberland Island were dimly visible above the northern horizon. These were the distant, uninviting landmarks towards which our steps were directed."

Before they had gone far, one of the party, named Stephenson, became ill. "In view of this fact it was decided, without much delay, that we should return in a body to the hut, and fall back upon our original plan of sending Petersen and Bonsall with the sledge. Several of us were already severely nipped by the frost; and all felt themselves to be losing rapidly what little strength they had.

"The cargo was re-stowed; the invalid, wrapped in blankets, was placed upon it; and our melancholy faces were turned southward, toward our only shelter. Poor as this refuge had always been, it was now worse than ever. A pile of frozen sods and snow was heaped upon the floor, and the cold air was streaming in through the orifice from which these had been taken.

"We reached it—how or when I doubt if any one of us distinctly remembers. I have often tried to bring to recollection some phenomenon which would indicate the period of the day. I cannot even remember the direction of the shadows which our bodies cast upon the moon-lit snow. I know that we did not all arrive together. As we moved slowly forward, first one, and then another, and another of the party fell behind; and it was at least an hour after the sledge had reached the hut before the last one, no longer able to stand upright, came crawling over the plain, upon his hands and knees. More than one of us thus finished the journey; and it has always appeared to me as a remarkable exhibition of the instinct of life that we toiled on in our stupefied unconsciousness even of danger. Stephenson's fainting fit evidently saved us; for, had we gone two miles farther and then turned back,

or had we still gone forward, there was perhaps not one of us who would not, unconscious of the risk, have stopped by the way for a short nap, through which we would have passed into the sleep which knows no waking.

"We had just sense enough left to enable us to appreciate each other's wants, and to give assistance, the stronger to the weaker; to close up temporarily the hole in the roof; to carry in our frosted blankets, and to spread them upon the breck underneath those which we had left behind. We knew when we awoke next day that these things had been done; but none of us retained more than the most vague impression as to the manner of their execution. The intense cold, operating upon our feeble and overtaxed bodies, had made wild work with our mental faculties.

"We lay down in the darkness; and, through hours uncounted, slept and shivered away the effects of our unfortunate journey."

The next start was made with better sledges and dogs, and was successful. They reached the ship, badly frost-bitten and almost dead.

"We were soon upon the land-ice under Cape Grinnell. The dogs, excited by the unceasing cracking of the merciless whips, galloped at the top of their speed. It was a race of life and death.

"The hull of the dismantled brig at length burst into view; and a few minutes afterward we were at its side. So much were my senses blunted by the cold that I remember scarcely any incident of our going on board, except that Dr. Kane met us at the gangway, and, grasping me warmly by the hand, led us into the fireless, frost-coated cabin. It was in the middle of the night, and all hands except the watch were sleeping. Ohlsen was the first to catch the sound of our coming; and springing from his cot as I entered the door, he folded me in his arms; and, after kissing me with Scandinavian heartiness, he threw me into the warm bed which he had just vacated."

And so ended one of the most desperate of the ventures made in the land conquered by Cook and Peary.

CHAPTER XLII.

ARCTIC AND ANTARCTIC REGIONS.

The Polar Regions extend respectively from the Arctic and Antarctic circles, in 66° 32′ N. and S., to the north and south poles, the circles being 1,408 geographical miles from the poles. The intense cold and the difficulties of ice navigation have made the discovery and examination of these regions a slow and hazardous task. Millions of square miles are still entirely unknown. Notwithstanding, the discovery of the North Pole by Cook and Peary, this vast area must still remain unexplored.

The Arctic circle is a ring running a little south of the northern shores of America, Asia and Europe, so that those shores form a fringe within the Polar Regions, and are its boundary to the south, except that three openings —those of the North Atlantic, of Davis Strait, and of Bering's Strait.

The width of the approach to this region by the Atlantic Ocean in its narrowest part is 660 miles, from the Norwegian Islands of Lofoten to Cape Hodgson, on the east coast of Greenland. The width of the approach by Davis Strait in the narrowest part, which is nearly on the Arctic circle, is 165 miles; and the width of Bering Strait is 45 miles. Thus out of the whole ring of 8,640 miles along which the Arctic circle passes about 900 miles is over water.

The South Polar Region, unlike the northern region, is almost covered by ocean, and the only extensive land being far to the south. It was of course entirely unknown to the ancients and to the early navigators of modern Europe, although a theory prevailed among geographers that a great continent existed around the South Pole; the "Terra Australis Incognito." It is believed that the Antarctic Regions will be very much more difficult to explore than the Arctic Regions.

THE HEMISPHERE.

The Hemisphere is one of the halves into which the earth may be supposed to be divided. It is common to speak of the Eastern Hemisphere and

the Western Hemisphere, the former, also called the Old World, comprising Europe, Asia, Africa and Australia, the latter, North and South America.

The boundary between the two is quite arbitrary, and a more natural division of the earth is into the North and Southern Hemisphere, the dividing line being the equator.

THE EQUATOR.

The Equator is the great circle of our globe every point of which is 90° from the poles. All places which are on it have invariably equal days and nights. From this circle is reckoned the latitude of places both north and south. There is also a corresponding celestial equator in the plane of the terrestrial, an imaginary great circle in the heavens the plane of which is perpendicular to the axis of the earth. It is everywhere 90° distant from the celestial poles, which coincide with the extremities of the earth's axis, supposed to be produced to meet the heavens. During the apparent yearly course the sun is twice in the celestial, and vertically over the terrestrial equator, at the beginning of spring and of autumn. Then the day and night are equal all over the earth, whence the name equinox. The magnetic equator is a line which pretty nearly coincides with the geographical equator, and at every point of which the vertical component of the earth's magnetic attraction is zero; that is to say, a dipping needle carried along the magnetic equator remains horizontal. It is hence also called the aclinic line.

MERIDIANS.

Greenwich is within a few miles of London, England, and a great astronomical observatory is located there. Time in all parts of the world is measured according to meridian east or west of Greenwich. There are in all 180 meridians east and 180 meridians west of Greenwich, total 360. It is plain then that the meridians begin to number in both directions from Greenwich.

The Meridian of Greenwich extends half way around the world from the North Pole to the South Pole. Beyond the poles, however, on the opposite side of the world from that covered by the Meridian of Greenwich, it is the 180th meridian, also extending from pole to pole; the Meridian of Greenwich and the 180th meridian being the exact antipodes of each other.

Since the earth's rotation around the sun makes the sun pass 15 meridians each hour, if you will divide the total number of meridians, 360, by 15, you have 24, the number of hours in a day. Roughly speaking, the 180th meridian

is midway between San Francisco and Manila. Approximately there are 160 meridians between New York City and Manila via San Francisco, so there would be 200 meridians between the two places via Europe and Asia. Divide 200 by 15 as explained above and you have the difference in time between Manila and New York, which would be 13 hours, and 20 minutes.

LATITUDE.

Latitude, in geography, the distance of any place on the globe north or south of the equator measured on its meridian. It is called north or south according as the place is on the north or south of the equator. The highest or greatest latitude is 90°, that is, at the poles; the lowest or smallest 0, at the equator, between which and the poles are the parallel circles, called parallels of latitude. One method of finding the latitude of a place is by measuring the altitude of the pole-star. When the latitude and longitude of a place are given its position on a map is easily found.

HOW A DAY IS LOST OR GAINED.

One difficulty that may lie in a matter apparently so simple as the reckoning of the days of the week is well shown in one of Poe's stories. The obdurate father of the maiden—evidently with the Greek calends in mind—promises to give her to the objectionable swain when three Sundays occurred in one week. To his consternation, and the joy of the lovers, this seemingly impossible event indubitably happened when two sea-captains appeared together upon the scene who had circumnavigated the globe in opposite directions. As a matter of fact, this bit of fiction represents what is taking place every day in the year, and must continue to occur as long as our present method of reckoning time is retained. And the reason for this is simple and familiar. The civil day begins and ends at midnight, but for convenience of explanation let us assume (as in the practice of astronomers) that the day begins at noon and ends at the following noon. It is clear that the interval of time between two successive noons will be, for us, twenty-four hours (or a day as measured by one complete rotation of the earth) only when we remain on the same meridian. For if at noon on the beginning of Monday we move, say, over a space of fifteen degrees toward the east, it is obvious that when the sun again stands at noon, for us, only twenty-three hours will have lapsed, since we shall have accomplished one twenty-fourth of his journey for him; that is, Tuesday, will begin, for us, one hour too soon.

Similarly, if we repeat this eastward movement, Wednesday will begin two hours too soon; and so on, until, when our starting point is reached, we shall, in count of days, be just twenty-four hours ahead in our reckoning. The result will be that, instead of ending the journey in twenty-four days (as we seem to do) and on a Wednesday, we shall actually complete it in twenty-three days, and on Tuesday. On the other hand, if we move westward in this way the reverse will happen; our days, as measured from noon to noon, will be twenty-five hours long, and we shall actually complete the trip in twenty-five days and on Thursday. For the stay-at-home, and for travelers returning thus from the east and from the west, there will, accordingly, if no correction is made in the reckoning, be for each day three distinct dates, each perfectly correct by diary or log; and each day of the week, not Sunday simply, will be repeated thrice.

EASTWARD AND WESTWARD CURRENTS OF CIVILIZATION MEET.

This shifting of dates is, of course, the same in the end whether the journey about the earth be made in a month or in a thousand years; and, in reality, it has become of practical interest principally in connection with movements of population which have extended through centuries. From Europe as a center the leaders of modern exploration advanced toward both the west and the east; and in their footsteps colonists have followed establishing new centers of civilization, whose commercial intercourse with Europe has in general been maintained along the routes of the earliest exodus. But the colonists carried their European dates with them; and it has thus happened that at all the points—chiefly in the islands of the Pacific Ocean—where the eastward has met the westward current of colonization and commerce, there has arisen a conflict of dates identical with that just explained. On the one hand lies regions where the time reckoning has lagged behind; on the other, regions where it has shot ahead. An imaginary line drawn upon the surface of the globe separating the regions where this difference in dates prevails is a date-line; and it is clear that the difference of reckoning marked by each line is, in general, one day, for when two circumnavigators, starting in opposite directions from one place, meet one another in the journey, one will have lost just that part of a day which the other has not yet gained. On the eastern side of the line, namely, the date will be one day earlier than on the western side; that is, if it is Sunday on the former it will be Monday on the

latter. It is characteristic, also, on such a line that if on crossing it from the west a day is added to the reckoning, or on crossing it from the east a day is omitted, the shifting of the dates will be corrected. This correction is a common item in the diaries of travelers and the log-books of mariners.

Lives Lost in Polar Explorations.

The following is a complete and accurate list of the deaths among members of the parties of polar travelers:

Year.	Explorer.	Lost.	Cause of Death.
1553	Sir Hugh Willoughby	62	cold and starvation
1554	Richard Cancellor	8	cold and starvation
1578	Sir Martin Frobisher	40	cold, starvation, drowning
1585	Capt. Davis	14	cold
1594	Barents	35	starvation, drowning, scurvy
1606	John Knight	3	cold
1607	Henry Hudson	10	cold, scurvy
1612	Sir Thomas Button	14	cold
1619	Jens Munk	62	cold, starvation, scurvy, drowning
1631	Thomas James	14	cold
1633	Isle of Jan Mayen settlers	7	cold, starvation
1634	Isle of Jan Mayen settlers	7	cold, starvation
1648	Deshneff	70	starvation, drowning, cold
1719	James Knight	50	starvation, drowning, cold
1728	Bering	10	cold, drowning
1735	Pronchistcheff	2	cold
1735	Lassinius	53	scurvy, starvation, cold
1739	Charlton Laptier	12	cold, starvation
1742	Bering	31	starvation, cold, scurvy
1773	Lord Mulgrave	8	cold and starvation
1776	Capt. Cook	4	drowning
1818	Parry, first voyage	1	cold
1819	Franklin, first voyage	2	accident
1821	Parry, second voyage	7	cold
1825	Franklin, second voyage	4	cold
1829	John Ross	4	cold and starvation
1838	Pease and Simpson	5	cold

Year. Explorer.	Lost.	Cause of Death.
1845—Franklin, third voyage	135	starvation, scurvy, exposure
1848—J. C. Ross, search expedition	1	unknown
1849—North Star expedition	5	cold, starvation
1849—Plover and Herald	3	cold, starvation
1853—Rae	6	cold, starvation
1853—Kane expedition	3	accident, cold
1860—Isaac Hayes	1	cold
1860—Hall, first voyage	2	cold
1864—Hall, second voyage	3	cold
1870—Hall, last voyage	2	cold and starvation
1872—Pegetthoff	2	cold
1872—B. Leigh Smith	2	cold
1875—English expedition	4	cold
1878—Jeanette (De Long)	23	starvation, cold, scurvy
1881—Greely	20	starvation
1896—Andree (balloon)	3	unknown
1900—Abruzzi	2	cold
1908—Cook	none	
1909—Peary	1	drowning
Total	756	

CHAPTER XLIII.

REMARKABLE DISCOVERIES OF A YOUNG ARMY OFFICER.

While all the world knows of the discovery of the north pole, not one person in 10,000, it is safe to say, knows that in 1899 a young American army officer, acting under orders of the Secretary of War, proceeded to Alaska, where he made a tour of exploration that resulted in the discovery of a safe overland route from the Pacific Ocean to the golden-laden fields of the Nome country.

Not only did this officer discover the wonderful natural roadway through the Alaskan Mountains known as Simpson Pass, but he also discovered the second highest peak in Alaska, and he brought back to Washington the best description of the Alaskan country and some of the finest maps ever made of that far northern country.

The man who did all this and the record of whose achievements have been filed away in the archives of the War Department all these years is Captain Joseph H. Herron of the Second United States Cavalry, now adjutant of the United States Military Academy at West Point.

EXPLORER STILL IN HIS THIRTIES.

Captain Herron, who was a young lieutenant not long out of West Point when he made his wonderful journey of exploration, never refers to his achievements in Alaska, and were it not for the fact that a few copies of the report were ordered printed for the use of the United States Senate, this story could not be told, for Herron would never tell it—at least for publication.

The route to the Yukon and Nome countries explored and mapped out by Captain Herron is officially recorded in the War Department as the "All American Overland Route From Cook Inlet, Pacific Ocean, to the Yukon."

The route follows the Yentna and Keechatno rivers, and breaks through the To-Toy-Lon Mountains in the Fleischmann glacier region of the Tateno

River country. This break is known as Simpson Pass, and is the gateway that leads to the gold fields beyond.

"This report," Captain Herron said in his official report of his expedition, "represents the earnest efforts of a small party in unknown regions, against extraordinary obstacles, deserted by guides, caught by winter, deprived of transportation, and hampered by scarcity of food.

COMMENDS AIDS IN HIS TRIP.

"I take pleasure in commending to the adjutant general the men of my expedition. Acting Assistant Surgeon Henry R. Carter, U. S. A., a young physician of ability and attainments, who, in addition to conscientious professional work, did duty at all other tasks assigned to him with pluck, zeal and energy, and contributed much to the success of the expedition. Privates Sam L. Jones and Gilbert Dillinger, Fourteenth United States Infantry, proved themselves on every occasion magnificent soldiers in every respect. Packers E. M. Webster and George Brown contributed greatly to the success of the expedition by their ability as horsemen and packers, as well as by their faithful, energetic and intrepid services throughout."

The explorations that were to result in the discovery of the overland route started at noon on June 30, 1899, at which time Captain Herron, in his report, says that "the steamboat left us, six white men and two red men, camped in a fringe of alder and spruce timber on the north bank of the Keechatno River. The fifteen pack horses were fed their last ration of oats, and over 3,000 pounds of our rations and impedimenta were piled up on the ground."

RECITES HARDSHIPS OF TRAVEL.

The country where the route begins Captain Herron describes as wild and overgrown; one that exacted from those in the expedition extraordinary labor at every step.

During the summer months, Captain Herron briefly recites, the daily routine of his command was "a reconnoissance for the best route for the day's march; a search for fords, crossings, detours around or passages through ravines, swamps and other obstacles; the construction of a pack-train trail by chopping out timber and brush in dense forests, blazing in open forests and corduroying in soft mud and tundras; fording or swimming the pack train over the rivers; the building of spar bridges where mud-bottom creeks inter-

posed which were too shallow to swim, too deep to corduroy, too soft-bottomed to ford and too wide to jump; investigation for wood, water, grass, and, if possible, a breezy location for camp, wind, as an additional requisite, minimizing the mosquitoes, gnats, horseflies and mooseflies."

"The first object," the Herron official report states, "was to get through the Alaskan Range, a mass of enormous peaks and glaciers about seventy miles wide, extending across Alaska and constituting the chief barrier to the interior. I consumed the month of July exploring through these mountains.

MARCH THROUGH DENSE TIMBER.

"The first day's march—forty-three miles—was through dense timber and over soft ground. The packs were heavy, the lash ropes stiff, and the horses frolicsome. The transportation stampeded back on the trail at every opportunity, raced through the woods, knocked off packs, plunged into mud holes, bogged down, and it required eleven hours of patient toil to make that short march."

After this day's march and until July 10, Captain Herron reported good luck. He was then nearing the To-Toy-Lon Mountains, and though he did not then know it, Simpson Pass, was not far away. The Indian guides, who were later to desert him, told him on that day that it would be impossible to get his horse over the mountains, that the pass was over vertical rock cliffs, and that when the Indians crossed they had to use their hands in climbing over. In the six days that followed Captain Herron discovered the entrance to the pass.

"During the following six days," he writes, "the Indians informed me that they 'saveyed' (knew) the country no further. I proposed climbing to the top of the mountains for a reconnoissance, and devoted the afternoon of the 16th to doing so. The Indians still wanted to go back, repeatedly warned me 'one month snow,' and made efforts each day to persuade me to abandon the trip.

POUNDED ON ROCKS IN RIVER.

"July 17 I went into camp after a short day's march to make a fire and warm up Carter, who, in fording the Keechatno River, was knocked down, carried off and pounded on the rocks by the swift current. The Indian Stepan rescued him from a disagreeable situation. We were nearing the

head waters of the Keechatno when, on the 19th, the monotony was relieved by the discovery of the pass over the divide.

"The formation, locality and game trails of antiquity all indicated that I had found the pass I sought. I asked my Indians for their opinion, but I received a reply of 'No savey.' I camped in the last clump of trees, our elevation now being at the timber line, and prepared to reconnoiter the pass.

"Stepan shot, about a mile from this camp, a huge bull moose. The animal was not far from twenty hands high and very fat, the antlers in velvet state. The fresh meat was welcome after a diet of bacon. The Indians consider the soft outer edge of the horns a great delicacy, likewise the nose, the sole of the hoof, the intestines and the marrow of the bones.

"Leaving three men and the horses at camp, I took the Indians and Dillinger and explored the pass for nearly ten miles, found it wide throughout, of slight grade, safe from snowslides, free from glaciers, the elevation on the crest taken with barometer and psychrometer 3,600 feet above sea level, and practicable for trails, roads or railroads. There was no need for the pick or shovels.

ATTACK ON TWO GRIZZLY BEARS.

"While in this pass I came upon two enormous brown bears, asleep (sometimes called the glacier bear, or the grizzly). Led by the Indian Slinkta, I crawled around to the leeward and then approached them, too near, I thought to myself, as I had a poor gun, only a few cartridges, and the nearest tree was five miles away. Slinkta whistled and awoke the bears, while I fired and shot the larger one in the head, but only staggered him. He arose and passed a swinging right hander at the other bear, but missed him. They got away.

"The same day Jones and Webster were chased by a brown bear, near the glacier at the head of the Keechatno. Four or five shots in the bear turned him, but did not kill him. He took to the brush.

"The 22d of July I crossed the crest of the divide and started down the other side of the watershed. East of the divide the drainage is into the Pacific Ocean; west of it into the Bering Sea. Bering Sea is closed by ice in winter, while the Pacific Ocean is open. Hence routes into the interior must connect with the latter.

"In the vicinity of camp, July 23, on the Tateno, were hundreds of mountain sheep, high up near the summits. Jones, Carter and Slinkta climbed the

mountains and shot two. An enormous moose trotted by this camp, but we were already loaded down with meat and let him go. July 26 Carter and I met a black bear and cub; wounded the old one and caught the cub, but we turned the little fellow loose the next day."

DESERTED BY INDIAN GUIDES.

On July 28 Slinkta and Stepan, Herron's Indian guides, deserted him, and from that time on the exploration of the overland route was made without guides, the explorers traveling by compass and the sun.

For the first two weeks in August the expedition had a hard time. Captain Herron himself during that time was injured when a pack horse jumped and fell on him in a mudhole, but he kept on. On August 25 two of his horses were accidentally killed, both by snagging, while on September 3 a severe earthquake further upset his plans.

From the Philadelphia Inquirer

CAN DR. COOK SILENCE THE SKEPTICS?

CHAPTER XLIV.

HUDSON HONORED IN NEW YORK.

On September 30 was held a great military parade, one of the largest ever seen in America. Twenty-five thousand men of arms marched past the massed representatives and special envoys of thirty-seven nations, while 2,000,000 citizens, seated in grand stands or standing along Fifth avenue, shouted themselves hoarse in cheers.

Although there were tremendous outbursts for each body of American troops, and unstinted applause in overwhelming volume for the British sailors, the most conspicuous reception of the day went to the sailors of the German fleet, a picked body of magnificent men, who, as they reached the reviewing stand, fell into the formal slapslap of the parade goose step and burst into "My Country, 'Tis of Thee," with an overwhelming volume of brasses and a fervor which took away the breath of the listeners.

The occupants of the benches sat silent for a moment, and then, rising bareheaded to their feet, cheered, and cheered, and cheered again, until the voices gave way and they could only wave hats and handkerchiefs in a long echo of applause.

GREAT DAY FOR WEEHAWKEN, ETC.

For the first time during the celebration all the small towns within striking distance of New York suspended business today to watch the parade of the sailors and mariners of seven visiting nations, the regular soldiers, the blue jackets, the national guard, and the naval militia of the United States, and the police of New York City.

So many men representing so many branches of the war department of the world have not been seen on American streets before; so many wearing American colors have not been seen since the days of the civil war. The total count of those in line today outnumbered the enlisted roll of the American regular army before the Spanish-American war. Forty-four hundred

police kept the crowd in line and at the same time, by a special system of platoon reliefs, the regular and reserve force of every precinct in the city was maintained at its full working capacity.

PARADE IN ORDER OF PRECEDENCE.

The parade followed strictly the order of official precedence. First came Admiral Sir Edward Seymour's men, the bluejackets and marines of the British fleet; then the Germans, and, following, the men of the Netherlands and the Italian midshipmen in company front, with their sailors bringing up the rear.

Then came the representatives of the United States, the coast artillery, carrying the new service Springfields for the first time; the United States Marine band of the Atlantic fleet in scarlet and gold, with a sprinkling of Filipino musicians blowing bravely; the marine corps; the sailors of the various ships of the fleet in division front; the naval militia; the national guard; and, lastly, the drab garbed regulars. The cadets of the Argentine training ship, trim and youthful, found a place between the American sailors and the naval militia.

As if to contrast the wonders of 1909 with those of 1809—no longer wonders now—Wilbur Wright and Glenn H. Curtiss, on September 28, made sensational flights in their aeroplanes. The former flew around the Statue of Liberty.

Miss Liberty, on Bedlow's Island, has seen maany ships from many lands in her time, and has welcomed all visitors with a dignified equanimity for many years. She never saw a ship of the air, though, until that morning. It was almost enough to knock her off her pedestal for Wilbur Wright to call on her in his flying machine.

It is positively known that he turned her head, because thousands of pairs of eyes saw him do so. And then he came back to Governor's Island again over the glittering waters of the bay. History was made while the spectators waited.

The first official visit to the famous Lady of Liberty and Light by the first aviator to show mankind how it might be liberated from the thraldom of earth had been seen by a multitude.

It was the second of beautiful exhibitions of the genius of Wilbur Wright, believed by many to be without a peer in his line in the world today. The first flight was around the island, over water at heights of 150 to 250 feet,

and was begun at 9:15 o'clock in the morning. The last was, perhaps, the most daring, the machine fluttering and diving in a strong easterly wind like a wounded seagull, while the setting sun was aglow with excitement, and was begun at 5:23 p. m.

On this trip Mr. Wright did not fly high nor attempt to leave the new part of the island used as the aeroplane starting field. But the bravery of the exploit, the flashes the spectators saw of the aviator's rigid face, the tooting of watercraft whose wheels were stopped in midstream, caused men, women and children visitors to the island to cheer ecstatically. Officers and soldiers waved their hats, shouted, and clapped one another on the back.

WRIGHT UNMOVED, AS USUAL.

Mr. Wright blinked the cobwebs of the sky from out his eyes, brushed the cloud dust from his lapel and walked across the darkening sands to his shed. Serene, modestly confident, if he took note of the excitement that his feat had produced on land and water, he smothered any reflection of it within himself. He and Miss Liberty are both self-contained and immovable. It is believed that he is a man after her own heart.

Curtiss made a short flight of about four hundred yards at 7 a. m. He slept the night before on the island. The machine had never been tried, which was also true of Mr. Wright's aeroplane, and Mr. Curtiss did not make a further attempt yesterday. The first test indicated to him that he might do better with a four-bladed propeller instead of one of two blades. The former was put in position, but the machine was not again taken out of the shed.

Mr. Wright arrived at the island shortly before 9 o'clock. The machine was taken to the center of the sandplot and placed, facing due west, on the monorail. A small crowd had assembled. Mr. Wright and Mr. Taylor, his chief mechanician, turned the two propellers until the motor caught the spark. Soldiers stood at a respectful distance. The aeroplanist, wearing his familiar Scotch plaid cap, walked deliberately to the front of the machine, listened a moment to the rhythm of his motor, then took his seat. At 9:15 o'clock the machine was in motion, and in an instant more the aviator was soaring.

Two circles were cut over the starting grounds, and then he swung out over Buttermilk Channel to the end, turned west at the northern end of Governor's Island and came back to the starting point. He completely circled the island, having involuntarily dipped a little when saluted by the whistles

of the tugs, steamboats and factories. A distance of about two miles was covered in this first flight. Mr. Wright was in the air seven minutes and ten seconds. The landing seemed a little rough, but no damage was done. In making his last turn the aviator rose about twenty-five feet above Castle Williams. From a little distance the passing appeared dangerous.

A STARTLED MISS LIBERTY.

Word was sent out to the reporters that Mr. Wright would soon again mount his paradise bird of the air. Each boat from Manhattan brought excited visitors. Several hundred persons grew tense when, at 10.17 o'clock, the propellers were started, and only a few of the spectators knew that Mr. Wright meant to circle the Statue of Liberty. The weather conditions were ideal. A soft, steady breeze came from the west. Directly into this the aeroplane, which is silver in color, left the monorail, with the aviator in charge, at 10:18:04 o'clock.

Straight almost as an arrow the wings of Wilbur flew to the Statue of Liberty, a mile and a quarter away. The crowd was too engrossed to cheer, but stood tiptoe instead. Only then was the intention of the aviator pierced and understood by all present. A thousand whistles seemed to make announcement to the world that there was something new under the sun. At 10:19 o'clock the flying machine was over the sea wall, and the "total toot" of the startled smokestacks must have reached the ear of that immobile lady, the quest of a great man.

As the aeroplane flew across the Upper Bay a seagull, bewildered by the noise of the new intruder, fluttered back and forth amid the roar of the propellers, and at last settled down on the top of a wave.

Suddenly there appeared beyond the curve of Castle Williams, the bow of the Lusitania, bound for Liverpool. It was as if she had risen from the sea to give contrast to the scene. Her decks were fringed white with flying handkerchiefs; a cheer that sounded faint came floating across the water. But Wilbur kept steadily on his virgin way. As an Irishman who was present, said:

"Wright is now where the hand of man has never set a foot."

COULD HAVE TOUCHED GODDESS'S HAND.

He would keep inviolate his appointment with Miss Liberty, and at 10:22 o'clock it was that the most unusual visitor she had ever received began to show her what a man from Ohio could do "when put to it."

It was then he waltzed around her, his wing tips palpitating exultantly as he safely made the turn. He went high enough in the air to touch, if he had had the time, the upraised hand of the goddess. He returned at once to the island, having been away less than five minutes.

Miss Liberty was reticent and Mr. Wright the same as to what, if any, pleasantries were exchanged, so the truth may never be known. But the crowd on the island was glad to see him back, and, after flying a half circle, Mr. Wright seemed to pick out a particular spot for landing, and ended a splendid, graduated descent by almost swimming into the sand. There was no jar; the machine lighted squarely, but when the soldiers were pulling the aeroplane back to the monorail one of the biplanes was broken.

Ferryboats, a Sandy Hook boat and various nervous tugs around the island stopped all progress during the flight.

Shortly before 1 o'clock Mr. Wright and William J. Hammer, secretary of the aeronautics committee of the Hudson-Fulton Commission, left the island for luncheon at the Singer Building. Mr. Wright, whom thousands at the Battery were waiting to see in the air, passed unnoticed under his tightly drawn black derby hat through the surging mob. In his wake, though unconsciously, were three well fed, curious farmers.

A BUCOLIC DISCUSSION.

"I tell you the flag on the steeple is blowin', and that means they'll be flyin' to-day," said one.

"It's the Norwegian Consul's flag that I see—over on that tower there," said No. 2, pointing to the identical spot, near by, where it was proper for that emblem to be exhibited.

"I can't be seeing that far," said the most elderly of the three, pipingly, "but where is the place for us to get tickets for the balloon ascensions?"

They were told that Mr. Wright expected to fly up the Hudson River shortly after 3 o'clock. Old as he was, the last speaker said he would wait for the show to begin, and, his knees trembling with excitement, he started off with his companions in search of a vantage point.

During luncheon Mr. Wright was asked how fast his machine was going on its way back from Bedlow's Island.

"I made no particular observations," he answered. "The wind was at my back. I was probably going at the rate of a little over fifty miles an hour."

"Do you expect to go some distance up the river this afternoon?" he was asked.

"Oh, I think I will make a flight up the river—maybe about 4 o'clock," he said.

That was sufficient to arouse the visitors to the island to the highest state of expectation. Flags hung limp about the harbor. Persons who had never seen a flying machine before but had read in newspapers the disadvantages that lurk in winds grew eloquent in pointing out that at last ideal conditions were at hand.

AND WRIGHT ATE PIE.

"How long will it take Mr. Wright to reach Albany?" became an oft-repeated question by these enthusiasts, who were most seriously in earnest.

Meanwhile Mr. Wright sat calmly lingering over his favorite dessert—pie—and the momentous concern of the high-keyed spectators grew apace.

"When he says 4 he means 4," maintained the faithful.

He came on time, but there rose in a few minutes a gusty breeze of perhaps twelve miles velocity that made the flags stand out straight to the west and caused the flight to Albany to be omitted from casual talk. The wind did not die down, but became more rapid and more uncertain. When 4:30 o'clock came the aeroplane was seen to leave the shed. Oldtimers at aeronautic carnivals here and abroad said: "He does not mean to risk himself in this wind."

Soldiers were busy clearing the one hundred acres of field of all except a dozen spectators. Reporters and photographers were driven back to the edge of the sand plot, while other soldiers pulled the aeroplane about a quarter of a mile to the monorail.

Nothing further was done until 5:19 o'clock, when, to the amazement of those who understood what the existing weather conditions meant to the aviator, and to the delight of those who didn't, the propellers were again started.

Wright was off in another moment or two, and, while not so spectacular as his former ones, the flight showed an ability to meet unwelcome conditions

that those who know said marked the last flight as one of the great exhibitions thus far made in the science of aviation.

The Hudson celebration became more definitely linked with the north pole discovery when, on October 1, Commander Robert E. Peary, his wife, and every member of the crew that accompanied him on his quest of the north pole aboard, and the steamer Roosevelt, just back from the region of eternal ice, formed salient features of a naval parade up the lower Hudson to meet the Half Moon and the Clermont at Newburgh.

Mr. and Mrs. Peary arrived in New York early from Portland, Me. The Roosevelt was coming up the harbor amid the salutes of other shipping when the commander arrived. The Roosevelt's progress from quarantine to the dock at West Forty-second street was marked by a continuous blast of whistles. When it came off Riverside drive, where the crowd was gathered, and started on the way up the river, the salute was taken up by thousands of cheering voices.

NAVAL PARADE CATCHES THRONG.

The naval parade was the principal incident of the Hudson-Fulton celebration of the day in so far as Manhattan was concerned. In Brooklyn the historical pageant of the previous Tuesday was repeated, and there was everywhere the usual expectation of aeroplane flights, but the great majority of sightseers flocked to the banks of the Hudson. There they saw, in addition to Peary's vessel, a great fleet of excursion steamers, steam tugs, yachts, motorboats, and other craft which rendezvoused between Fort Lee and Spuyten Duyvil and about 10 o'clock fell into line for the fifty-mile journey to Newburgh.

The nucleus of the "lower Hudson" fleet that started to meet the Half Moon and Clermont and the other craft coming down the river was a squadron composed of one small United States cruiser, twelve torpedo boats and four submarines. The Castine, the parent boat of the submarine squadron, and four other submarines acted as escort to the Half Moon and Clermont, making twenty-two American warships in the demonstration. The other members of the American war fleet and the foreign men-o'-war remained at their anchorages in the Hudson.

The Half Moon and the Clermont passed the night at Ossining, and had a comparatively short run to reach Newburgh.

Newburgh, a quaint little city that dates from early Dutch colonial times,

had prepared for the celebration of its history. After the arrival of the fleet there was a street parade of 5,000 men, in which the sailors and marines from the warships joined. The paraders afterward were guests at a big "shore dinner."

REDSKINS GREET HALF MOON.

Gov. Hughes, the Hudson-Fulton commissions from up and down the river, members of the legislature, foreign and other guests were welcomed by Mayor McClung as they went ashore at Newburgh. Members of the Waorneck tribe of redmen, gay with paint and feathers, arrived, sent out a welcoming detachment in canoes to greet the Half Moon, while guns boomed a welcome from Palmer's park.

During the formalities attending the transfer of the Half Moon and Clermont to the upper Hudson commission, the sailors and marines of the American and foreign warships were landing further down the river, to take part in the parade, one of the features of the day ashore.

FEW AT DEPOT TO MEET PEARY.

When Commander Peary stepped off a train in the Grand Central station at 7:15 a. m. on his return to New York from his trip to the pole few persons were at the station. He and Mrs. Peary were warmly greeted by Herbert L. Bridgman, secretary of the Peary Arctic club.

With the laughing remark that he was too hungry to talk, Commander Peary hastened across the street for breakfast. After breakfast the commander and Mrs. Peary left in a taxicab for the pier to board the Roosevelt.

"I appreciate the honor of being in the naval parade," said the commander, "and it is an especial pleasure to be with my crew on the Roosevelt on such an occasion."

While on the pier Peary walked up and down several minutes without being recognized by 200 persons gathered there to see the Roosevelt.

"How does it feel to be back?" Peary was asked.

"It does not feel so worse—in the words of Chimmie Fadden," replied Peary.

Then his eyes turned to the Roosevelt. "She does not look like a very imposing ship, does she?" he said. "But up in the ice she looks like something, and there were times when she looked mighty good to me. You notice the way she's built. The round of the bow prevents the ice from getting hold

of her when she is squeezed, and she bobs up when the ice crushes together."

The north pole flag which the steamer bore was the usual American ensign with a stripe of white bearing the words "North Pole" in black letters running diagonally from the upper corner of the horizontal stripes to a corner under the stars. Commander Peary explained its origin as follows:

"I wanted a piece of the silk flag I flew at the pole to bury at that point with my records, so I cut a diagonal strip out of it. Then, to preserve the flag, I sewed a strip of white silk into the cut when I returned to the Roosevelt. The design seemed so appropriate that we lettered this strip and adopted it as the north pole ensign."

Mr. and Mrs. Peary had stepped on a tug and were on the way to the Roosevelt before the crowd realized who they were. Then there was a burst of cheering. Handkerchiefs and hats were waved, and the whistles renewed their blasts.

Capt. Bartlett and the crew of nineteen men were on the Roosevelt in the garments they had chosen for their rough trip to the Arctic, flannel shirts, fur boots and picturesque sea togs.

The Roosevelt lay at anchor answering salutes of vessels while most of the ships intending to take part in the parade passed. It then dropped into the line and brought up the rear of the procession.

Later the following dispatch was sent to The Associated Press by Harry Whitney:

"Stephenville Crossing, N. F., Sept. 29.

"So many questions are being asked of me by different papers that I desire to make the following statement:

"My reasons for not going back to Etah after Dr. Cook's things were that the engine in the Jeanie, one of the smallest boats that ever went to the North Arctic, was not working satisfactorily, and we were depending partly on sails, which later we had to do entirely. There was no reason why the Jeanie could not have gone back, but, not knowing that Dr. Cook's things left with me were of such importance as they have since turned out to be, I did not return. In addition, I had promised the Eskimos who were with me after musk oxen in Ellesmere Land certain things which I expected on the ship coming for me, but they were not aboard the Jeanie, and I did not want to return and disappoint the men. Another reason was that I wanted to prolong my hunting trip, which I was able to do by not going back, but by cutting across Smith Sound from North Star Bay and following the edge of the ice south.

"I do not believe that either Dr. Cook or Commander Peary, if placed in my position, would have done any differently than I did, nor would they, having started south for civilization, have turned back. I had never seen Dr. Cook until I met him in the Arctic. He told me he had been to the North Pole, and I was pledged not to reveal this fact to Commander Peary, but I could say that he had gone further north than Peary in 1906.

"Commander Peary, to my knowledge, knew absolutely nothing about what had been left with me by Dr. Cook, except that I mentioned instruments, clothes and furs and also a narwhal horn. Dr. Cook's belongings left in my charge were placed in boxes, which were nailed up. Then I saw the Eskimos cover them with rocks.

"No one could have been kinder to me or shown me more consideration than Commander Peary did while I was on the Roosevelt, and he said he would be very glad to have me remain aboard and return with him, instead of joining the Jeanie. HARRY WHITNEY."

While this phase of the matter was being aired, the directors of the Explorers' Club of New York voted to order an investigation of Dr. Cook's assertion that he ascended Mount McKinley in 1906, the truthfulness of which had been repeatedly and publicly called into question. The decision was reached after a warm debate among the members of the board, the vote which finally passed the resolution standing 5 to 3. The temper of the dominant faction was suggested by the comment of Professor Marshall H. Saville, who, as acting president, in the absence of Commander Peary, was to appoint the investigating committee. When asked whether the polar controversy was also discussed, Professor Saville said:

"There is no polar controversy. It takes two to make a controversy. As matters stand to-day Commander Peary has made charges against Dr. Cook and Dr. Cook has not answered them. When Peary has taken final and formal action and Cook has made a reply, then there may be a polar controversy."

The directors had already made extensive inquiries relative to Dr. Cook's Mount McKinley trip by correspondence and personal interview, and it was said that they had obtained information concerning it which had not hitherto been made public. All the affairs of the club excepting the election of officers are managed by the directors, and the action of the board in any matter is final as an expression of the stand of the organization.

The resolution which was passed first rehearses the fact that questions

of the genuineness of Dr. Cook's mountain ascent had arisen "in the public mind," and that these questions bore upon the standing of the club of which he is a member. It then directed the acting president to appoint a committee to investigate the charges and make a report to the club.

An interesting development of the discussion was that Professor Herschel C. Parker, of Columbia, who headed the expedition with which Dr. Cook approached Mount McKinley, and who twice issued voluntary statements to newspapers calling attention to the doubtfulness of Dr. Cook's claim to the ascent, was one of the three directors who voted against the resolution. The eight members of the board who were present at the meeting were Professor Marshall H. Saville, acting president; Henry C. Walsh, secretary; Professor Herschel C. Parker, Caspar Whitney, W. G. Clark, Herbert L. Bridgman, Frederick Ober and F. S. Dellenbaugh.

WAS COOK "UNETHICAL"?

The stand of the club on the point raised by Commander Peary, as to whether an explorer commits an unethical act in using preparations made by another explorer, was first stated for publication by Professor Saville. Commander Peary requested the club to make a definite statement on this point after the departure of Dr. Cook for the north, and included in his communication a doctrine that, by prior exploration and by taking precautions looking to further work, an explorer "preempts" the field to the exclusion of other men. The Explorers' Club, Professor Saville said, officially recognized Commander Peary's position in the matter soon after he made his request, that is, while Dr. Cook was still absent on his attempt to reach the pole.

An interesting aspect of the question was touched on by the magazine, "The Bench and Bar," which published an editorial on the legal proof of the discovery of the North Pole. The editorial lamented the fact that neither Dr. Cook or Commander Peary was willing to share his discovery of the pole with white comrades, for in order to establish a claim at law corroborative evidence must be introduced in the shape of credible witnesses who will testify to the truth of a story or the telling of a story with such a degree of circumstantiality that scientists will be convinced of the truthfulness of it.

The two corroborating Eskimo witnesses of Cook and the negro witness of Peary could be disbelieved by a jury, said the editor, first because they are ignorant and would know whether they had been at the pole only as told so by an intelligent man, and secondly, they occupied the position of employes,

and as such their testimony must be placed in the same category as the testimony of servants, which, when given on behalf of their masters, is deemed unreliable. The corroboration of the story by circumstantial evidence, such as neither explorer has yet produced, is the only course left open.

BOTH MUST SHOW PROOF.

"The Bench and Bar" said:

"Of course, Dr. Cook has as yet failed to sustain the burden of proof which inevitably and properly rests upon any one who claims to have performed so wonderful a feat. In order to establish his claim he must adduce something more persuasive, something more convincing than his bare assertion that he has reached the 90th degree of latitude. And the same is true of Commander Peary, however high his scientific standing. The question of whether the pole has been attained is one of importance too great to be settled by the mere assertion of any one person, no matter what his reputation for truth and veracity may be. Nor need we, under accepted rules of law, give conclusive weight to the unsupported testimony of either of the explorers, as each is an interested witness.

"Even if he were to produce these witnesses and they were able to corroborate his story fully, their testimony would still be liable to be weighed in the light of certain maxims of the law of evidence. In the first place they probably are devoid of the scientific knowledge that would enable them to give intelligent and valuable testimony on such a subject as that under investigation, and witnesses who are ignorant and occupy a low station in society are peculiarly liable to the influence of parties of superior intelligence and craft. If Dr. Cook wishes to corroborate his story by circumstantial evidence, the law and common sense both agree that the circumstances to which he testifies must not be inconsistent with known scientific facts. And this observation is, of course, equally applicable to any testimony which may be given by Commander Peary."

The following interesting comparison of the deeds of Cook and Peary was published while the controversy was at its height:

Dr. Cook.	Commander Peary.
Before leaving land party traveled over 400 miles of land and sounds. Fittest of men and dogs chosen.	Before starting from Roosevelt winter was spent in hunting trips and sledging supplies. Best men and dogs chosen.
Over circumpolar ice Cook traveled with light equipment. Had one supporting party, which returned three days out from land.	Over circumpolar ice Peary traveled with a large expedition. Had four supporting parties, which returned after fourteen, nineteen, twenty-four and thirty-five days, respectively.
Cook's dash party consisted of Dr. Cook, two Eskimos, with two sleds, two teams of thirteen dogs at start.	Peary's dash party consisted of Mr. Peary, Henson, four Eskimos, five sleds, five teams of eight dogs each.
Two men out of three marched with sledges.	Five men out of six marched with sledges.
Cook carried a canvas folding boat.	Peary had no boat or bayak.
Cook started from land March 18, 1908, seventeen days later in season than Peary, but one year previous.	Peary started from land March 1, 1909.
Cook left land 520 miles from pole, near the ninety-third meridian.	Peary left land 413 miles from pole, near the seventy-first meridian.
Cook took thirty-four days to cover these 520 miles.	Peary took thirty-six and a half days to cover these 413 miles. He was held up by leads six whole days and was actually traveling thirty and a half days.
Cook crossed big lead without delay on morning following night of arrival.	Peary was held up at big lead for six whole days.

Dr. Cook.	Commander Peary.
Cook's average per day from land to the pole was 15.3 miles.	Peary's average per day from land to pole was 11.3 miles. Peary's average per traveling day from land to the pole was 14.5 miles.
Cook's average per day before supporting party turned back was 21 miles.	Peary's average per day before last supporting party turned back was 9.7 miles; average per traveling day, 11.7 miles.
Cook's average per day to the pole after supporting party returned was 14.7 miles.	Peary's average per day to pole after the last supporting party turned back was 29.3 miles, or 132 miles in four and a half days.
Cook arrived at the pole April 21, 1908, fifteen days later in the season than Peary, but one year previous.	Peary arrived at pole April 6, 1909.
Cook left pole April 23 and reached eighty-fourth parallel on May 24.	Peary left pole April 7 and reached Cape Columbia (83 degrees 7 minutes) April 23.
Between pole and 84 degrees Cook traveled 360 miles in thirty-one days, at an average of 11.6 miles a day.	Between pole and Cape Columbia Peary traveled 413 miles in sixteen days, at average of 25.8 miles a day.
Cook failed to make base and caches from which he started because of open water and impossible small ice.	Peary kept trail made to pole, or Bartlett's trail made on return right to base.
Cook's failure to make base rendered necessary long course of travel, another winter in the Arctic and many risks and privations. Return to civilization impossible for a year.	Peary reached supplies at base and was able to return to civilization in same year in which he reached the pole.

While the claims of the rivals were being debated, by the average citizen, students of international law took up with vigor the question of ownership of the north pole.

A prominent official at Washington declared that the land belonged to Dr. Cook and to nobody else, and added that the government was unwilling and also unable to maintain its claim.

The voice of international law has to be heard on what may prove a vexed problem. Either Russia or Canada might claim the country (if country there be) lying on the confines of their respective dominions.

Denmark, as possessor of Greenland, might prefer claims that could not be entirely overlooked.

The ownership of the north pole, or for that matter the south pole, will depend upon dry land being found there. If the spots at 90 degrees latitude be covered with sea or with ice (as Dr. Cook's statements suggest they are) they will belong to no particular nation. They will be treated like any other part of the high seas and belong to all the world. Should there be dry land, the first discoverers may have the honor of taking formal possession in the name of the nationality represented, and for the time a staff with a hoisted flag might display the nationality of the discoverer.

RIGHTS OF DISCOVERERS.

The law of nations now steps in to say something on this matter of the rights of discoverers.

It is not always the simple thing of "first come, first served." Many parts of the world were discovered by British navigators and explorers that were never taken into possession. One authority tells us that "all mankind have an equal right to things that have not yet fallen into the possession of any one, and these things belong to the persons who first take possession of them."

This seems clear enough. The practical application comes next. "When, therefore, a nation finds a country uninhabited and without an owner it may lawfully take possession thereof, and after it has sufficiently made known its will in this respect it cannot be deprived of it by another nation."

What if there be, however, in the newly discovered land aboriginal dwellers whom the discoverer chooses to call barbarians or semibarbarians? Might there not be inhabitants in the country around the north pole? This question should not be overlooked nor too hastily dismissed from consideration.

The portion of land that Dr. Cook would travel over must bear a very small

proportion to the whole of that vast unexplored region. There are wilds within the Arctic region that have not been inhabited for centuries, yet they are covered with traces of wanderers or of sojourners of a bygone age.

"Here and there," says Sir Clements R. Markham, "in Greenland, in Boothia, on the shores of America, where existence is possible, the descendants of former wanderers are still to be found. The migrations of these people, the scanty notices of their origin and movements that are scattered through history and the requirements of their existence are all so many clews which, when carefully gathered together, throw light upon a most interesting subject."

The Eskimos of Upernavik knew nothing of natives north of Melville bay until the first voyage of Sir John Ross in 1818. It was found that a small tribe inhabited the rugged coast between 76 and 79 degrees north.

WHERE ABORIGINES MAY BE FOUND.

What has international law to say on the possession of land where aboriginal natives are found?

No strict rules seem to have been laid down for guidance. It has been said that a nation may lawfully possess some part of a large country in which there are none but earlier nations, whose scanty population is incapable of occupying the whole; unsettled habitation cannot be accounted a true and legal possession. History has shown us that discoverers have not been very particular about the rights of aborigines, especially when the country is rich in minerals or well placed for commerce.

The right of discovery is usually stretched as far as it will go. Yet many of the islands discovered by Capt. Cook in the South sea were never annexed. This intrepid explorer was not authorized by his sovereign to do so; moreover, it is not clear that the sovereign would have had the right of appropriation. The islands contained natives who were not very ready to admit the superior rights of strangers who came to them from Europe. Capt. Cook suffered a violent death at their hands, and in the case of New Zealand, England had endless fights with the aborigines. In Australia, however, the blacks were few in number and very unready to show themselves.

FILIBUSTERS AND ADVENTURERS.

It is worthy of note that filibusters and adventurers cannot hold the ownerships and sovereignty of any new lands they may discover. They must work for some state or power recognized by other nations, else they may at any time be dislodged.

As has been laid down, "navigators going on a voyage of discovery, furnished with a commission from their sovereign and meeting with islands or lands in a desert state, may take possession of them in the name of their nation." And this title has been usually respected, provided it was soon after followed by a real possession.

Was Dr. Cook a commissioned explorer or was he, to use a common phrase, "out on his own." And what, after all, is meant by "real possession?" The country that desires to maintain a claim of ownership of the north pole and take a "real possession" is not likely to find another nation to quarrel with. These not very eligible properties—the north and south poles—will presumably lie in the public market. Expeditions will continue to be sent out and the interest attached to them will be based upon far higher considerations than the ownership of a (possible) patch of sterile land.

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